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DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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CALENDAR FOR JULY.

"With tossing and raking, and setting on cocks,
Grass lately in swaths, is hay for an ox.
That done, go and cart it and have it away,
The battle is fought, 'Ye have gotten the day.'"

JULY is the haymaker's month. Now we must bestir ourselves. The timothy, the red-top and the sweet clover, are all ready for the scythe. If you would have the hay-mow retain the true flavor of the hay-field, you must cut the grass while it is in blossom, and before it has lost its sweet aroma. It will then be tender and nutritious, and easy of digestion, and your milch cows in the winter will show you the difference between that, and hard over-ripe hay. Some farmers consider well-ripened grass more hearty, cattle will not eat so much of it, and they will be longer digesting it. It will do very well for oxen and horses. The ripened seed, if kept in the heads, makes up in some measure for the loss of juices in the stalk. But the difference in the milk-producing qualities will be very apparent to every observing farmer.

We must now be astir with the lark. The days are long, it is true,—but when were bright days ever too long? The music of the rifle upon the clear, ringing, keen-edged scythe, must wake the echoes of the morning. Now all hands are fresh and active, and the sweet breath of morning diffuses new life and vigor through all the frame.

Learn to swing the scythe with an easy, uniform motion, and keep yourself as much as possible in an erect position. Do not attempt to cut too much at one stroke, or to drive the scythe through the grass by main strength. Mowing does not require so great an outlay of strength as many seem to suppose. With the right stroke, and a keen scythe, mowing is pleasant work, especially when the dew falls in pearly drops before every stroke. "Make hay while the sun shines,"—but you must get it cut early to make, by the time the sun shines bright and clear, and then it will be ready to "set on cocks," before the dew of evening gathers upon it. Keep it stirring and tossing in the bright sunshine, through the middle hours of the day. Hay-making is busy work. There is no time for idling. Hay should be put into the barn warm from the field, and well stowed in the mow, and it will come out fresh and fragrant. But there's a cloud in the west, and the hay is not dry! What is to be done now? All hands afield with rakes and forks, and John, take the horse and wagon, and get the hay-caps from the harness-room, and bring them to the field, and we will be ready for the shower if possible. The cloud slowly rises and gathers blackness, but we keep steadily at our work, and the cocks rapidly multiply under our hands. Ah! there's a bright gleam of lightning and a sharp peal of thunder. It is time to put on the caps. Come, John, now for the caps and help me spread them on the cocks. That was a heavy clap—how majestically it rolls away and reverberates through the skies. One cannot help being struck with awe, at such manifestations of the Almighty Power. The rain will be here soon, but the caps are on, and, now let it rain! We have put them on in twenty minutes, and it will save us four hours' work tomorrow, besides the injury to the hay.

If instead of a shower there should be a storm

of three or four days' duration, the saving of labor and of injury to the hay, would nearly or quite pay for the caps.

"But," says my old neighbor, "all this is mighty expensive business. We used to get along very well without all this outlay for mowing machines and hay caps, and all this new fangled machinery." True, we did, neighbor, and when we were boys, we paid seventy-five cents a day for labor, and cut one ton or less to the acre, and fed it out to cows worth from eighteen to twenty-five dollars. Now we have to pay two dollars to mowers, and cut frequently two to three tons to the acre, and feed it to cows worth from forty to eighty dollars each. We must have our hay got in the right time, and well got, for such cows, and is it not cheaper to save labor by machinery, than to pay for it, at such prices as we now have to pay? We must keep up with the times, and make our arrangements to suit changing circumstances, or we cannot get along.

We said JULY is the Haymaker's month; but it is not wholly thus. The reapers must have their share of it. The grain as well as the grass must be cut in season. Do not let it stand till the kernel will shell out in handling the sheaves. When grain is ripe, it is liable to be injured by rains and wind. There is risk in letting it remain longer than is absolutely necessary, and when properly dried, the sooner it is housed the better. On the immense grain fields of the West they cannot, and do not attempt, to house their grain, but cure it in the shooks and stacks, and much of it is injured by the weather or destroyed by the birds and squirrels and mice.

With our small fields, this is not necessary, and would be for us a wasteful and slovenly way of doing business.

The cornfields and the garden must not be neglected in JULY. Weeds will grow in JULY as well as in June. The corn must have its last hoeing in this month. See that it is well done. Leave no weeds to bear a crop of seed for next year. Your root crops want frequent visits from the wheel hoe, to keep the ground light and mellow. The old saw says—

The twentieth of July
Sow turnips, wet or dry.

But for winter turnips, any time before the tenth of August will do, though that period is rather late. It is very convenient to sow turnips among corn, at the time of the last hoeing. Turnip seed costs but little. Scatter it broadcast among the corn and potatoes, and it will well repay for the labor.

The turnip takes but little from the soil, feeding chiefly upon the atmosphere, by means of its broad, pulpy leaves. If time can be found to plow up a piece of old pasture land, fence it, harrow in a good dressing of ashes or superphosphate of lime, and sow with turnips and grass seed; you will be quite likely to get a good crop of turnips if the autumn should prove favorable, and the land will be doubled in value for pasture afterwards.

We now begin to enjoy the fruit of our labor in the garden. Peas and string beans, and new potatoes and turnips, strawberries, currants and cucumbers are charming additions to our daily food, and if we are fortunate enough to have a few apples ripe in JULY, we shall know how to prize them, and to be *thankful for them too*.

COOKERY.

A writer in the New York *Spirit of the Times* says: The refinement of a family is nowhere so quickly seen as at a table, and nowhere do men's sensual, selfish instincts become more prominent. There is the centre of the family after the day's wandering; there its first meeting after a night of forgetfulness; there we give hospitality to the stranger, there the tongue is loosened, the wandering thoughts called back, and the heart is warmed into expression under generous fare. "He has eaten with me," is the Arabian talisman to protection, and the Christian has made a supper the emblem of his religion.

Then what constitutes a supper? Even the simpler half of a meal, being the food and its preparation, apart from its physiological bearings, is worthy of thoughtful study. As to that other half of a dinner, the people that are to sit around it, they being chosen only on festive occasions, to them I do not allude.

Equally important to a man's physical being, as to his moral health, is the character of the food on the table. It may be insufficiently cooked, crude, and indigestible; it may be overdone, sodden and heavy; it may be dried to a chip, until the nutricious juices are evaporated, or it may be fried to an oily mass that requires the strongest stomach to analyze. Then, again, the food that was originally ample and rich, may be so wasted by the culinary process, that what was once abundant is prodigally reduced.

One or the other of these faults universally affects nearly every dish that is placed on the American tables.

To avoid such evils, and cook sufficiently without wasting, and in the most economical quantities, is a high art of life, and one of the simplest and most overlooked. It is slighted by the intelligent and left in the hands of the ignorant; and those whose duty it is to govern, are punished in health and property for their neglect.

E. FOSTER, of Salem, Wis., writes us:—"I raised a quarter of an acre of sugar cane the past season, from which I made fifty gallons of very good molasses. I think I shall plant two acres another season." This is a substantial argument why sugar should be cheaper—and abundant reason why the *Journal of Commerce* and kindred sheets should *caution* (!) farmers against too great risk in its culture.

FARMYARD DUNG—PREPARATION AND APPLICATION.

No subject in the varied course of agriculture obtains a more general notice, or deserves a more important consideration, than the application of farmyard dung. The article is produced on all lands on which grains grow and animals are kept, and is the most efficacious of all manures that are yet known. It is a mixed body of straws and excrements, urinary and solid, possessing the quick action of the latter substances, and the more durable qualities of the former materials. All other manures are brought from foreign places, and purchased by a ready cost; farmyard dung is daily produced, and of a constant repetition. The use is varied and of a great value, and the application is no less important.

An approved and long-continued mode of preparing farmyard dung prevails in the celebrated turnip-growing Border counties, of placing the contents of the cattle-yards in square piles about six feet in height, in the corner of the fields to be planted with green crops. The yards are concave or dish-shaped, retaining and spreading the moisture equally over the mass, and supplied with straws that absorb all the moisture from rains, snows and urine. The contents are carried out at two different times during winter, and no pressure is allowed on the piles, except the weight of one or two persons to spread the materials evenly and thinly over the heap. In this condition, a fermentation reduces the heap into a saponaceous mass for use in May and June, and in a condition that is easily divided by hand-forks, well moistened, and from which the heat of fermentation has in most cases nearly altogether vanished. Much bulk is lost by this mode of preparation, but it is reckoned the best for the use of green crops.

Having been educated under the above system of preparing farmyard dung, I practised the mode with the usual success in various parts of the kingdom. In later years I adopted another mode, from the observation of a very large loss of bulk, and from a wish to use a fresher condition of the dung. At any times of convenience during winter, the contents of the yards are carried to the green-crop fields, and laid in a heap sloping at both ends, over which the carts pass to deposit the loads, and over which the materials are spread evenly and thinly, in order to mix the substances, and that no part remain in a dry state. The consolidation from the pressure of the carts prevents the fermentation of the heap, which is formed at convenient times, from November to the month of April, and later when the yards are duly moist and the straws thinly used. Potatoes are the first-planted green crop; and about ten days before the dung is required for use, the heap is turned over with forks, laid loosely together, and the lumps well broken, and the dry outside of the heap thrown into the middle of the new aggregation. A very active fermentation immediately commences, which is prevailing during the deposition of the dung in the drills, which are immediately reversed and the seed sown. This mode produces fully equal if not superior results to the first-mentioned preparation: it affords a larger bulk, and more convenience in forming the heaps at different times; while the former requires to be done at one time, or at not distant periods.

For some considerable time past, I have doubted the fermentation of farmyard dung, having had freshly-voided fæces, carried from the cow-shed, laid into drills for turnips, which were a superior crop to the parts of the field treated with fermented dung. This result happened on several occasions, constituting a fact, from a majority of similar results. In order to facilitate the application of fresh dung, I have long ago recommended that all straws for litter should be cut into short lengths by the thrashing machinery, and that the dung be mixed with the prepared turnip-lands by contrary workings of Finlayson's harrow, and raised into ridglets by one furrow of the common plow, in which the seeds are sown by the common two-drill machine, or with a portion of bones or guano by Hornsby's drop drill. This practice will supersede the fermenting heap of farmyard dung, and remove the objection of long straws not covering into the ground, by cutting into short lengths. The fæces and short straws will be convenient for Chandler's liquid manure drill, when Mr. Kemp's theory has advanced into a more general notice.

The application is most excellent of farmyard dung as a top-dressing of young grass seeds; and for that purpose, the fresh, strawy condition is preferable. The crops of clover are largely increased, and also the following crops of wheat. I have long ago suggested that the farmyard dung generally applied on bare clay fallows, for wheat, be applied as a top-dressing on the young wheats, in March, by means of moveable timber railways placed on the ground. But, most unfortunately, now-a-days, no opinion, theory, idea, or suggestion meets with any notice, except it emanates from a society or a club. Individuals languish in obscurity, and are held in insignificance.

The use of food being to produce caloric to plants and organic bodies, the chief considera tion is, how to apply the manures as food for that purpose, and, in order to yield that element in the least expensive manner and most ample quantity. I wholly dissent from chemistry—that rotten dung is more efficacious than fresh dung: weight for weight, and quantity for quantity, the latter must prevail in the abundance. The many statements made, of chemical agencies and transformations, are of small account.

With regard to covered and uncovered feeding-stalls, the former may suit in certain places; but in the majority of situations, the straw could not be reduced without the rains and snows that fall in the yards; and, under the covered sheds, the want of moisture produces a dry putrefaction. Even with the present open yards, much difficulty is experienced in reducing the straws into an impregnated condition with rain and urine.

I have not the pleasure of an acquaintance with Mr. Baker, of Writtle, nor do I know his appearance from sight; but I have ever admired the sound and enlightened judgment displayed by him on all practical subjects, and the strong sense that he brings to bear on the reveries of cognate auxilaries. These aids are but puny, shallow and evanescent; apt to dazzle and deceive, to bewilder and mislead; and often noisy as the tinman's trade. An enlightened practice must lead and confirm.—*Mark Lane Express.*

For the New England Farmer.

COLOR OF CATTLE.

We speak of the animals of one section of country as red, another as black—of one class as a mixture of red and white, another as fawn-colored, &c., &c., as though these characteristics were of a reliable character. Is it so? Can we predict at all from the color of the parents, what will be the color of the offspring, or is it chance entirely? We speak of the red cattle of New England—is this characteristic permanent? I make the inquiry to be informed, not having had sufficient experience to speak with confidence on the point. So much is said of color, in the description of animals, that it is well to understand how far this is to be relied on. Whenever we see an ox with a white head, the thought immediately occurs, has not that animal a streak of Hereford blood,—just as though this color was peculiar to this class. In speaking of the animals in some of the districts of Great Britain, they are said to be all black, or nearly so. So much so, that horned cattle generally are spoken of as black cattle. With us, it is very rare to meet an animal entirely black.

April 8, 1858. INQUIRER.

For the New England Farmer.

THOUGHTS ON COOKERY.

Your remarks, Mr. Editor, in reply to my inquiry about cooks, viz., that medicines are so mingled with all sorts of food, or nearly all sorts, now-a-days, that it is difficult to get anything that is unpolluted by them, and that there is scarcely anything that needs reformation more than our present modes of cookery, have emboldened me to say a few things in your paper, on which, otherwise, I might not have had the moral courage to venture. Yet I know, dear sir, that there are a few of your readers so tired of wearing the chains of a slavery more detestable, if possible, than that of man to man, that the discussion of this subject in a candid way, so as not to offend those who may not perceive its necessity, will be truly welcome. But I have no room for preliminaries, other than to bespeak forgiveness if I chance to repeat some things which I may have already said in other numbers of your valuable paper.

There are a few simple principles by which every truly Christian cook who wishes to be free—sent of God, and not of Satan—should be governed. Let me, in as few words as I can, present some of them for consideration. Others, of less importance, I omit.

1. No cookery is legitimate whose aim is to make it less healthy, less agreeable, or less nutriticus than before.

2. No cookery is according to truth and nature, and, consequently, is legitimate—which even *permits* this.

3. No cookery is in accordance with the laws of God, natural and moral, which aims solely to bring the food to appetites which are acknowledged, universally, to be *fallen* appetites. The food being made right, our appetites should come to the food, and not the food to our perverted appetites. Hence, we should hear nothing about preparing food so as to have it relish. We should prepare it *right*, and habit will soon render it agreeable.

4. No food can be according to law—the law of God, I mean, not the law of custom—which is so operated on by cookery that its proportions are much changed from what the Creator intended. Thus the apple contains water, acid, and saccharine matter. Now to have it lawfully cooked, all these should be retained in their own proportions. To diminish or add to the water; or above all, to increase or diminish the acid with sugar by cookery, would therefore be a wrong. Nor have we a right to add to them any new ingredients, foreign or domestic; such as sugar, salt, pepper, spices, &c. I do not say, in this place, that they may not be eaten, but I do say that they should not be added to our food. They should be eaten by themselves, if at all.

5. That sort of preparation of our food which putrefies it, or even carries it through the first stage of putrefaction—whether we call it cookery or not—is far enough from being legitimate. Thus that which is prepared by fermentation, whether bread, cake, beer, or anything else, has passed through what may be called the first stage of putrefaction, and is hence a deteriorated article. In like manner, processes of cookery which hasten decomposition by diminishing the vitality, so to speak, of the article, are, to say the least, doubtful.

6. No processes of cookery are legitimate which have for their object to preserve food from decomposition, especially such as accomplish this object by depriving the article of its vitality by extra heat or by the addition of foreign agents, or medicinal substances. Thus the preservation of butter and meats by salt, spices, saleratus, saltpetre, and the preservation of cheese by rennet, salt, &c., is not in accordance with the laws of nature, and is, therefore, wrong. Drying substances very slowly by the fire or in the open air, is less objectionable.

7. All cookery which consists in part or in whole in adding to our food, while being cooked or afterward, any medicinal agents, even though not intended to preserve it from decay, is also wrong. Thus the addition of saleratus, saltpetre (or nitre,) cream of tartar, vinegar, mustard, catchup, pepper, allspice, ginger, cinnamon, salt, &c., is, by this rule, objectionable. For all these things and many more, which I could name are medicines. They are set down in our books as medicines—they ever were medicines—they probably ever will be so. The last three are *least* objectionable.

8. Lastly—for the present—Dr. Dunglison, in his "Elements of Hygiene," says, "that every made dish is more or less rebellious;" by which he must mean more or less objectionable. As an example of his meaning, he speaks, in particular, of the addition of eggs, as wrong. If eggs are wrong, butter is more so, milk also, and sugar; for all compounds into which these enter are *made* dishes. The French are said to have 685 preparations of which eggs form a component part, and we have probably hundreds. So of butter and lard; nearly everything, now-a-days, is besmeared or permeated by one or the other of them.

It is possible a few made dishes, if they deserve the name, such as farina mixed with farina, in

the case of brown bread, &c., may form exceptions to Dr. D.'s rule. It may also be observed, that certain cases which may be abnormal or diseased cases, may form exceptions to some of the other preceding rules; but they cannot be numerous, and their application belongs to the department of the medical men, rather than that of the hygeist.

Your readers may now judge for themselves, whether your statement is too strong, that our cookery needs reformation more than anything else. They may also understand, perhaps, how it is that while medical men, even we, of the old school, do not order for our patients, one-fourth as much medicine as we did fifty years ago, so much more is sold in proportion to the population. They eat and drink it daily and hourly—this is one reason. Hence the correctness of your own statement, that "half the trade of the apothecary has gone into the grocer's hands."

If any of your fair readers should begin to be alarmed, and to say that, at this rate, nothing is left for us to eat, or certainly to cook; let them recall their conclusion till I have time to show them a long list of dishes, longer perhaps than they will have patience to look over, which can be prepared without violating any of the foregoing rules, unless it be the eighth—hardly even that. Meanwhile, if they do not like to wait, let them look into my great work, "The Laws of Health," (at John P. Jewett & Co.'s) or into a little book costing about ten cents, entitled "Bread," written and published by William Hunt, of Boston, which, on the preparation of breadstuffs, contains more wisdom than many an "ample volume—mighty tome," which could be named, even though emanating from "high authority," and highly commended. W. A. ALCOTT.

Auburndale, May 10, 1858.

For the New England Farmer.

THE BONE SPAVIN.

FRIEND BROWN:—In your last monthly an inquiry was addressed to yourself or subscribers, as to a cure for bone spavin. Knowing nothing of the remedy you refer to, permit me to relate an experiment of my own with bone spavin, and the result, leaving parties interested to form their own conclusions. Some few years since, I became possessed of a fine family mare, that was, and had been for a long period, troubled with bone spavin. This, while it did not exactly lame her, seriously affected her gait when at full speed. Having in the stable one day a can of "rosin oil," it occurred to me to apply some of it to the mare's spavined joint, which I forthwith did, without any very definite idea as to the nature of the remedy or its probable effect. During that and the succeeding day, several applications of the oil were made, and I soon came to notice considerable inflammation over and about the joint, attended with a copious discharge of a transparent fluid resembling water. In a few days the hair came off where the oil had been applied, and the watery discharges continued through the pores of the now uncovered skin. This gradually ceased, however, and I soon had the gratification to find that instead of destroying the joint, as I began to fear, I had completely removed every vestige of bone spavin. This became known to a neighbor whose brother was in the livery business, and he has since informed me that both himself and brother subsequently applied this oil to bone spavin, and in one instance to incipient ring-bone, with complete success. It should be the first run of rosin oil. Mine was procured from the "Boston Oil Company's," Custom House Street, Boston.

East Woburn, May 12, 1858. L. P. D.

For the New England Farmer.

ASPARAGUS BEDS.

MR. EDITOR:—I wish to say a few words to you, and to have a few words from you, in regard to asparagus beds. From all my reading for the past fifteen or twenty years, I supposed that the only way to have a good asparagus bed, was to bestow a great deal of labor and a great deal of manure in its formation, as well as of attention to its proper position. A few days since, having an opportunity of getting some good roots, I thought I would make one, late as it is, this spring. I took my stored information into account, of trenching deep, two spades at least, or even two and one-half feet, manuring at the bottom very heavily, &c. I laid out a bed about sixteen feet square, and came to the conclusion before I got through with the digging, that if the operation was to be conducted on an extended scale, it would be well for humanity, if not for the asparagus, that an easier plan should be found. The idea of having eighty acres, (as Bridgman, I think, says one gardener has, who sends to the London market,) under cultivation, would require a life-time, and the fortune of the Duke of Devonshire, to supply the manure. Our farmers, I thought to myself, must have an easier method,—and so it turned out. I asked one of them, soon after, and this was the amount of the conversation.

Question.—How do you manage your asparagus beds,—do you trench?

Answer.—No, I plow two furrows.

Q.—How, both in the same line?

A.—No, I plow one furrow, and then return.

Q.—How deep, then, is your furrow?

A.—O, perhaps eight or ten inches.

Q.—Well, do you manure highly at the bottom?

A.—No, I believe I didn't put any manure in to the bottom of the trench.

Q.—Is your ground very rich?

A.—No, only medium.

Q.—You manure on top, then?

A.—Yes, a good deal.

Q.—When?

A.—In the fall.

Q.—Do you think this the best plan to follow, in managing a bed?

A.—I don't know whether it is the best plan or not, but from my bed I got, a few days ago, one hundred bunches for Boston market, and I thought that was doing pretty well.

I can't give you the size of the beds mentioned by the individual above, but it is enough to say, he is one of those energetic, practical farmers, that would hardly be content with one bunch of as-

paragus, where two could be had—unless the two cost more than they came to.

Now, Mr. Editor, what say you? I have looked over twenty-four numbers of the *Farmer* and only found one article on asparagus, and that not much more than an allusion to its cultivation. Shall we, gardeners on a small scale, trench over our ground, bury our manure, after the fashion of Bridgeman, Fessenden, Agricultural Reports of Congress, &c., or pursure my neighbor's simple, easy, comparatively economical method—and durable, too, for he says such a bed will last "any length of time?"

A SUBSCRIBER.

Lincoln, Mass., 1858.

REMARKS.—The result of your "energetic, practical farmer's" experiment would lead us to travel in his path. Hundreds of people have been frightened away from raising asparagus because the common opinion has been that it requires nice and expensive operations to produce it. But it is not so; asparagus is a hardy plant, and will grow well, with little care, on a moderately rich soil. If manure is placed at the bottom of a trench two feet below the surface, the roots of the plant will find it; but even then it is doubtful whether that manure would be as valuable to the plant as manure placed upon the surface and dug under two or three inches in the autumn.

An idea that it is difficult to raise small fruits, such as currants, strawberries, raspberries, blackberries, &c., also prevails, and deters many from making the attempt, when they might easily have their tables spread with these wholesome fruits during the hot weather, when the system needs them in order to keep it in healthy action. There is scarcely any plant so easy to produce as asparagus.

THE PLANETARY SYSTEM.

According to M. Helmholtz, a number of singular peculiarities in the structure of our planetary system indicate that it was once a connected mass, with a uniform motion of rotation. Without such an assumption, it is believed impossible to explain why all the planets move in the same direction round the sun; why they all rotate in the same direction round their axes; why the planes of their orbits, and those of their satellites and rings, nearly all coincide; why all their orbits differ but little from circles, and much besides. From these remaining indications of a former state, astronomers have shaped a hypothesis regarding the formation of our planetary system, which, although from the nature of the case, it must ever remain a hypothesis, deserves special attention. The commencement of our planetary system, including the sun, must, according to this, be regarded as an immense nebulous mass, which filled the portion of space which is now occupied by our system, far beyond the limits of Neptune, the most distant planet. Even now we, perhaps, see similar masses in the distant regions of the firmament, as patches of nebulæ and nebulous stars. Within our system, also, comets, the zodiacal light, the corona of the sun, during a total eclipse, exhibit remnants of a nebulous substance, which is so thin that the light of the stars passes through it unenfeebled and unrefracted. If the density of the mass of our planetary system be calculated, according to the assumption in question, for the time when it was a nebulous sphere, which reached to the path of the outmost planet, it would be found to require several cubic miles of such matter to weigh a single grain.

HORSE TAMING.

This subject does not appear to be fully understood even by professional horsemen. The majority of horses which are denominated vicious, are on the contrary extremely docile and possessed of gentle natures, but as these admirable qualities are always associated with boldness and courage, such animals will not infrequently retaliate by kicking or biting their abusers. They never exhibit antagonism unless punished, or when made to perform some painful exertion, taxing them beyond their powers.

The horse inherits a greater degree of intelligence than any other useful animal of the brute kind. His instincts, in many instances, compare favorably with those of the nobler animal, man. If, therefore, a horse is obdurate and incorrigible, it is because he has not been understood; because his genius is superior to the person to whom his early education and training have been confided. Ignorant grooms, in breaking colts, use coercive measures, where kindness and gentle treatment are only appropriate. The first impressions of a young horse deprived of his liberty and the unrestrained following of his own inclinations, are almost certain to mark indelibly his future career, and make him either obstinate and intractable or submissive and affectionate. Thus, if he has been frightened and his nervous system excited beyond control, flogging or any harsh practice would confirm what originally was but an impulse, and make it a permanent habit.

Horses, like men, are more susceptible to flattery than chastisement. I will relate a case in point which occurred last spring, by which a promising thorough-bred, three years old, was entirely ruined in disposition. The animal in question was unusually intelligent, possessed remarkably elastic limbs and temperament, and was perpetually throwing up his heels and gamboling when not restrained by lack of space. A professional horse-trainer had contracted the job of reducing him to servitude. The first difficulty of catching the colt in an adjoining pasture was only accomplished after half a day's coaxing, and the utter demolition of the patience of the trainer. This individual, thoroughly exasperated, initiated the mettlesome animal into the virtues of a black whip. His efforts at resistance were terrific; he kicked and plunged, and made fearful plunges at his executioner; he was in the most intense state of excitement; the neck-veins became gorged with blood, and his eyes were projected far from their sockets. So ungovernable did he become, and so much was his indignation aroused by this surprising treatment, that after a period of a week had elapsed, the opening of the stable

door where he was confined was the signal for a continuation of the knocking and struggles which marked the day of his introduction to society. At the present time this colt is the most furious and vicious quadruped I ever saw, which is entirely attributable to the brutal flogging he received when it was unmerited, and before he could understand its object. Thus the superior intelligence which might have been cultivated into pre-eminent virtues, was turned into a channel for the fostering and development of his baser proclivities.

In breaking a colt, we should first endeavor to make him conscious of what is required of him. Fettering him with a halter for the first time, placing the saddle upon his back, fastening the girths, are all matters of paramount importance, and an intuitive knowledge of his idiosyncracies.

Before putting a halter upon a colt, he must be rendered familiar with it by caressing him and permitting him to examine the article with his nose. Then place a portion of it over his head, occasionally giving it a slight pull, and in a few minutes he will be accustomed to these liberties, and then the halter may be fastened on properly. To teach him to lead is another difficulty. Stand a little on one side, rub his nose and forehead, take hold of the strap and pull gently, and at the same time touch him very lightly with the end of a long whip across his hind legs. This will make him start and advance a few steps. Repeat the operation several times, and he will soon learn to follow you by simply pulling the halter. The process of saddling and bridling is similar. The mouth of the colt should be frequently handled, after which introduce a plain snaffle between his teeth and hold it there with one hand and caress him with the other. After a time he will allow the bridle to be placed upon him. The saddle can now be brought in and rubbed against his nose, his neck, and his legs; next hang the stirrup strap across his back, and gradually insinuate the saddle into its place. The girth should not be fastened until he becomes thoroughly acquainted with the saddle. The first time the girth is buckled it should be done so loosely as not to attract his attention; subsequently it can be tightened without inspiring him with fear, which if fastened immediately it would most certainly do. In this manner the wildest colt can be effectually subjugated by such imperceptible degrees that he gives tacit obedience before he is aware of his altered condition.

The recently introduced art of taming horses as practiced by Mr. Rarey, and which has given him an enviable celebrity in Europe, is one which in my opinion will prove of inestimable value, not only in training colts, but in eradicating the vices of the matured horse. Mr. Rarey's method is not new in this country, nor original with him, it having been practiced by circus riders in subduing and educating horses for their performances. The treatment is exceedingly simple, and consists in placing the horse in such a position as to render all his efforts at resistance abortive. Once convince him of your superiority mentally and physically, and his obdurate spirit is permanently conquered. The older the horse, the more the difficulty in vanquishing him, as he clings to his early impressions with astonishing tenacity. Last week I had the gratification of witnessing the taming of a horse by a *confrere* of Mr. Rarey practicing in this city—Mr. Caleb H. Rarey. The horse provided for the operation was a most incorrigible brute, extremely nervous, and apparently actuated by a desire to taste of every person who came within range of his mouth. Mr. Rarey approached him fearlessly, and after a contested struggle of two hours, the ferocious animal was entirely changed in disposition. In fact he presented a most pitiful and forlorn appearance, not only permitted Mr. Rarey but also the bystanders to take liberties which, two hours before, he would have resented in the most savage manner. Such was the wonderful influence of a few simple contrivances by which the horse was effectually prevented from offering successful resistance.

The art of horse-taming is to a certain extent known to the Mexicans. Throwing the lasso and entangling the animal in its meshes, so as to deprive him of his liberty, will produce similar effects in curing his obstinacy as Mr. Rarey's method, as the same general principles are involved. I am not permitted to give the details of this gentleman's practice, as secrecy was enjoined upon all who witnessed the performance. Any knowledge of the horse that will make him more useful to man cannot be too widely disseminated; and I sincerely hope that horse taming, with all the details of the operation, will soon find its way into the public prints, properly authenticated. The introduction of valuable thorough breds makes the subject of training an exceedingly interesting one, as in many instances the pure bloods defy all efforts at subordination.

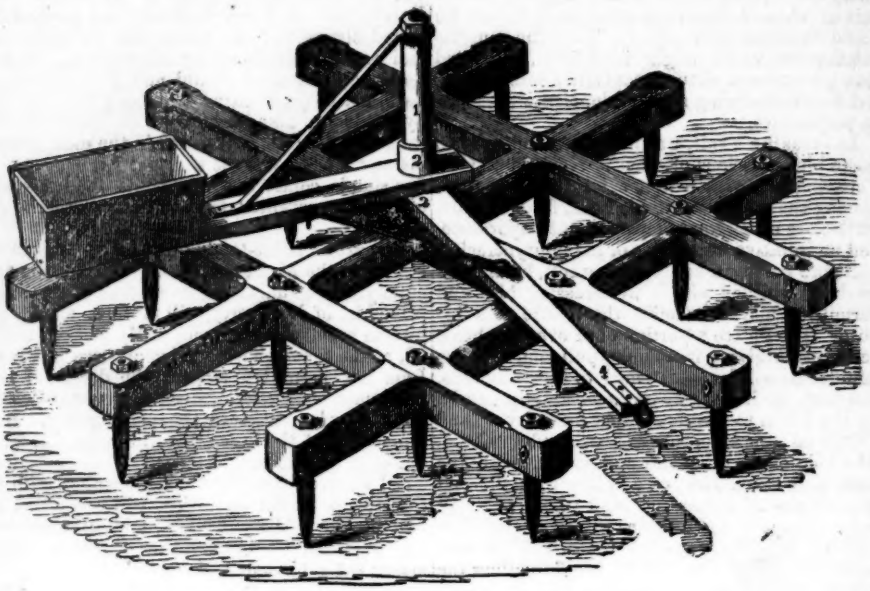
A269 J. V. V., *in N. Y. Tribune.*

Marvellous Growth of Vegetation in the High Latitudes.—Bayard Taylor, retracing his steps along the coast of Norway, after the lapse of a few weeks, says:—

"I was particularly struck, during the return, with the rapid progress of summer—the leaps with which she clears her short course. Among the Lofodens the potatoes are just coming into blossom and the rye and barley into head: the grass was already cut in many places, and drying on poles, and the green of the woods and meadows showed the dark, rich character of the northern lands. Owing to this rapidity of growth, all the more hardy varieties of vegetables may be successfully cultivated. Mr. Thomas informed me that his peas and beans at Kaafiord—latitude 70 degrees north—grew three inches in twenty-four hours, and, though planted six weeks later than those about Christiana, came to maturity at the same time."

Here is another popular illusion dispelled. What are all the marvels of tropical growth to this?

Artesian Wells in Illinois.—We learn by the *Prairie Farmer* that the above kind of wells are becoming common in some parts of Illinois, and that they are of the greatest necessity and benefit to farmers residing on prairies distant from living streams. There are about a hundred such wells in Iroquois county alone; their average depth is about one hundred and twenty-five feet, and cost about $200.



BUCKEYE ROTATING HARROW.

The above is a representation of the "Buckeye Rotating Harrow," recently patented by Wm. DeWitt and O. D. Barrett, of Cleveland, Ohio. The toothed frame is made of suitable sized timber, halved together, and fastened by the teeth, which have shoulders that come against the lower side of the timbers and nuts on the upper side. The centre-piece, 1, is made fast to the toothed frame by means of the cast plate, 3. The thimble, 2, has a flange on its lower end, by which it is firmly bolted to the draft bar, 4. The weighted arm is held on either side of the draft-bar, and at right-angles to it by means of a hook, as represented. A weight of twenty-five or thirty pounds is placed in the box on the weighted arm. This weight causes the teeth under it to sink deeper into the ground than the rest. As the harrow is drawn forward, they meet with more resistance, and consequently cause it to rotate horizontally, pulverizing the ground completely, requiring less force to draw it than it would, did it not rotate.

The advantages the patentees claim for this harrow, are as follows:

1st. It will do twice as much as the common harrow in pulverizing the soil, without any extra labor for the team.

2d. It is the strongest harrow built, and does not cost so much as the common jointed harrow.

3d. It is adapted to all kinds of soil, and can be operated like the common harrow, by taking off the weight. This is of advantage only in reference to newly turned up sod, requiring to be harrowed with the furrows.

4th. By the rotating motion, the teeth are made to move in every conceivable direction. Consequently, *they sharpen themselves.*

5th. This harrow leaves the ground smooth and even, as it is *impossible to clog it*, consequently stones, roots, vines, or other things, cannot be dragged along by it, to leave the ground in furrows, as it frequently is by the common harrow.

Messrs. Nourse, Mason & Co., of Quincy Hall, are making a few of these harrows for trial by our New England farmers.

For further information, address the General Agents, Robinson & Co., 21 Bank Street, Cleveland, Ohio.

WORKING AND THINKING.—It is a no less fatal error to despise labor when regulated by intellect, than to value it for its own sake. We are always in these days trying to separate the two; we want one man to be always thinking, and

another to be always working, and we call one a gentleman and the other an operative; whereas the workman ought often to be thinking, and the thinker often to be working; and both should be gentlemen in the best sense. As it is, we make both ungentle, the one envying, the other despising his brother; and the mass of society is made up of morbid thinkers and miserable workers. Now it is only by labor that thought can be made happy, and the two cannot be separated with impunity. All professions should be liberal, and there should be less pride felt in peculiarity of employment, and more in excellence of achievement.—*Ruskin.*

MANURES—VEGETABLE AND ANIMAL.

Everything which has grown upon the soil, even to the comparatively dry and unsucculent haulm or straw which most crops leave behind them, is capable of being transformed, by the chemistry of nature, into manure, or the pabulum of vegetable life.

By the term *humus*, we understand that portion of the vegetable structure, or organization, which is resolved, by fermentation, into mould; such as the foliage, the stems, and succulent parts of the stalks of plants, and even those portions of the more perfectly liquified or woody organism, which are broken up by the play of chemical affinities, and made capable, when rendered soluble by water, of contributing to the development and sustenance of plants. It is rarely the case, however, that *mere* vegetable matters are applied to the soil artistically. They are, for the most part, used in conjunction with animalized particles, which render them more energetic, efficient, and salutary in their effects.

Even the manure from the stable is by no means a purely vegetable substance, although formed of hay and grain. In every case, portions of matter rejected from the animal system, are mixed up with the vegetable mass—worn out, abraded particles, which are no longer of any service, and which are thrown into the common receptacle which receives the residuum of the food that has not been digested, and from which it passes in the form of excrement.

The poorer an animal is, the less of this animalized matter does it throw off; hence the well-known fact that the manure made by cows, oxen, horses, sheep and hogs, which have been well kept, is much more energetic and valuable than that furnished by those which have not been supplied liberally with food. The urine of every animal contains a certain portion of this animalized matter, and hence its superior value for agricultural purposes, and the high degree of vegetable fecundity resulting from its application to most crops and soils. The ammonia contained in this liquid manure also contributes, very essentially, to its fertilizing powers; but the animalized matter is that which chiefly produces its fermentation and putrefaction, without which it would be nearly or quite useless for manurial purposes, at least in its immediate effects. Other principles highly beneficial to vegetation are also contained in urine, many of which are derived immediately from the food upon which the animal is kept. This remark applies also to the solid voidings, and is illustrated by the following table, showing the constituents of fæces and urine.

In one hundred parts of horse dung, in a fresh state,—the animal having been kept on oats, hay and straw,—there were,

3.7 of biliary matter and coloring matter in a state of alteration.	
6.3 of mucus, (crude,) &c., &c.	
20.2 of non-digested vegetable remains and ashes.	
69.8 of water.	
100.0	

The quantity of ashes in this case was six per cent. Their constitution, according to accurate analysis, was as follows: In one hundred parts—

Phosphate of lime	.05
Carbonate of lime	18.70
Phosphate of magnesia	36.25
Silicia acid	45.00
	100.00

Urine from the horse contained, in one hundred parts—

Carbonate of lime	1.1
Carbonate of soda	0.9
Hippurate of soda	2.4
Hydrochlorate of potass	0.9
Urea	0.7
Water	94.0
	100.0

It will be seen that both these articles contain carbonate of lime, a substance valuable to vegetation in many ways, and they are also replete with other highly energetic and valuable principles. In applying manure to the soil—whether animal or vegetable—we should endeavor, in the first place, to ascertain the character and condition of the latter, and also the habits, character and requirements of the crops intended to be grown upon it. Whether we turn in green crops, or feed them to animals, and apply only their excrements, this information is alike essential to success. By applying to a vegetable, manure which does not contain principles congenial to its nature, or which does not enter into its constitution, we do not secure those advantages which we might derive if the manure were more appropriate to the plant which it is desired to produce. It is worthy of some study, therefore, to act understandingly upon this point, and to furnish such aliment as will be taken and assimilated by the system, for the support of which it is intended. By enabling ourselves to do this, we shall obviate no inconsiderable expense and trouble, and ensure a better success.

For the New England Farmer.

"SPARE THE BIRDS."

MR. EDITOR:—It is strange that after so much dissemination of a broader, deeper and more benevolent philosophy in regard to the value of the "sweet warblers of the grove," that there should be any person living under the influences of a genuine New England rural home, who can deliberately advocate the destruction of birds, especially "robin red-breast." The writer, J. B. R., in the last issue of the *Farmer* (May 1st,) is so far in doubt of the correctness of his dangerous views, as to call in the nominal authority of Moses to justify his conclusions. It would be difficult to name an iniquity which the selfishness of man has perpetrated, for which he has not sought a justification from the Bible. Without wishing to discuss Moses' views of "dominion," it must, I think, be clear to every enlightened head and heart, that the only "dominion" which God ever gave man over "birds, beasts and fishes," is the dominion which mind has over matter —the dominion of intellect over mere animal instincts. But where, save through the cravings of his depraved appetites and passions,does man find authority for laying under tribute all of God's animal creation, to gratify his passions or subserve a lazy and blind convenience? Because God has given to man "dominion over birds, beasts and fishes," by virtue of his superior endowments, it by no means follows that men may be tyrants by virtue of their power. The characteristic of tyrants is to destroy whatever stands, lives or moves in the way of their pleasure or convenience. "He who spake as never man spake," has assured us that the raven is fed by the fatherly care of its Creator, and that not a sparrow falls without its Maker's notice. These views, I know, are abstract, and will avail but little with such as seem to think all God's creation has been made for their especial benefit and convenience. Let us, therefore, appeal to the self-interest of such, and inquire whether the services which the "robin" is performing, are not far more valuable than a few or even all the "cherries?" The robin is well known to be the consumer of a vast multitude of worms, bugs, beetles and curculios, which if left without check, would destroy fruits far more valuable than "cherries," which in dog-days are no real estate, though pleasant and cooling, moderately partaken of. A long list of valuable services might be presented in detail, which not only the robins confer, but which are conferred in kind, by nearly all the birds which frequent the haunts of men, not even excepting the "villanous" crow, whose intelligence and sagacity often baffle the ignorant enmity of its pursuers.

But aside from material and transient interests involved in the destruction of birds; what man is so dead to the spiritual teachings of animated nature, whose soul is so unstrung to the "music of the birds," as to find it in his heart to ruthlessly shoot them down for the paltry reason that they partake of some of the bounties of their Creator—that they deprive their lordly masters of a few "cherries" or other small and quickly perishing fruits? Who would not give up his daily repast of cherries for a few days or even weeks for the soul-inspiring "music of the birds" —their joyous carolling from "early dawn to dewy eve?" He who has no heart for the companionship, the joy of life and gladness of the song of birds, should forthwith seek the crowded and dusky haunts of city life. I cannot speak calmly in view of so cruel, unjust and injurious a proposition as that of "killing the robins," or any other of our almost domesticated birds. If it is right or expedient to kill the robin, then we had better encourage our boys to the wanton practice of destroying their nests, and thus prevent the increase of an evil, instead of taking pains to cure it. Does not such a rapacity as would kill the birds for pleasure, convenience or even temporary profit, feed and keep alive a spirit of vindictiveness and hatred towards real or supposed enemies of our kind? Is the shooting of robins the best moral lesson and the most refined pleasure we can give our sons? Even if it is certain that the birds do us some real injury, are we for this reason to destroy them, and thus teach our children that they may destroy whatever gives them inconvenience?

I apprehend that the killing of any of our birds of the air or forest, under our present meagre and imperfect knowledge of the "unkindly offices" which they fill, would be like wielding a giant's club in the dark—more likely to injure a friend than foe.

I will not allow any shooting of birds upon my farm, and I would that every farmer well consider both the temporal and spiritual welfare of himself and family, and of the community, before he suffers his farm to become the hunting-ground of idle and vicious sportsmen. "Spare the birds."

Westboro', May, 1858. T. A. S.

For the New England Farmer.

BEE-HIVES.

I am aware of the confidence placed in the opinion of those who have experience in the subject under consideration, even without their reasons. Lacking the experience of many in bee culture, I gave what I thought good reasons for differing with Mr. Quinby, in the opinion that a rough bee-hive was the cheapest. He has given his reasons for leaving the inside of a hive unplaned. I will fully concur with him, for the reasons he gave, that it is unwise to place a large swarm of bees in a hive having nothing for their support but a plane polished surface. I beg leave to add that the "single case reported," was in a hive furnished with a very simple device, designed to aid the bees in supporting themselves until they could commence building their comb, affording a more sure support than could be had on an unplaned board, not only affording a support to the bees, but so arranging them that they would, almost invariably, lay the foundations of their combs, where a skilful engineer would have placed them, having for his design, economy of building material, the filling of the hive to the best possible advantage, and a thorough ventilation of the whole, after the work was completed. A hive thus filled may be as thoroughly ventilated when standing in its usual position, as it is possible to be when inverted, and the bottom board removed, as Mr. Quinby recommends in his winter management of bees. If the hive is inverted the chips from unsealing honey, dead bees and other offend

ing substances must lodge among the combs, there to remain among the bees until they can remove it in the spring. In the hive to which I referred, the refuse matter will fall upon the bottom board, to be removed by the apiarian at pleasure.

Of the adaptation of bee culture to New England, of the profit and pleasure it affords the bee-keeper, when properly managed, I need not write. But of the losses and disappointments which have followed the efforts of many who have attempted bee culture, the greater part have arisen from the thousand and one inventions of men, to improve the habitation of the honey-bee, none of them improving or even changing its habits or instincts, in the least. As the first thing we can do for a swarm of bees is to furnish it with a house, I deem it of the utmost importance that it should be as near in accordance with their nature and habits as may be. "AMICUS."

East Washington, N. H., 1858.

HOG-YARD COMPOST.

In the immediate vicinity of your hog-pen, have a yard, strongly and permanently enclosed, and of sufficient size to afford ample accommodation to the number of swine you intend to keep. Into this cast as much good muck, chip-manure, sods, forest scrapings, loam from the road-side, saw-dust, refuse hay, straw, haulm, and weeds that have not gone to seed, as will, when firmly compressed, form a stratum of one foot in depth over the whole yard. On to this let whatever liquids can be spared about the premises be directed, such as suds from the wash room, the wash from the sinks, a portion of rain water from the eaves, and whatever else that can be obtained that possesses any virtue. These fluids all contain more or less fertilizing matters, and if mixed with the other materials, will induce a thorough fermentation of the whole mass, and secure its preparation for the use and sustenance of crops.

A few quarts of corn, peas, buckwheat, or other grain, scattered over and dug into the manure, or dropt into holes made with an iron bar, will operate as an inducement to the swine to root and turn the mass, and thus effect the thorough incorporation of all the parts, so that, by their assistance, and the effects of a proper degree of fermentation, you will have, in the end, instead of the crude collection originally deposited, a perfectly homogeneous article of great richness, and at a moderate expense.

We mention the labor of the swine in this connection because it is a popular belief that they can be thus profitably employed; it certainly admits of a question, however, whether that belief is not fallacious. That is, whether the labors of swine in rooting up, turning over and mingling the common manure heaps of the barn, cannot be more cheaply performed by men, at common wages. In order to raise pork profitably, we must avail ourselves of two things, viz.: get a *great weight*, and at an *early age*. Can this be accomplished by *working hogs*, for well-fed ones will not work much.

Is it not, then, better to feed swine, from the beginning, with as much nutritious food as they will eat up clean, and with a good appetite, when they will remain quiet and lay on fat and flesh with great rapidity?

If the manure made from the process described above is intended for light arenaceous soils, in which there is a want of cohesibility, it would be well to add a liberal percentage of fine clay to the other ingredients, wherever that article can be easily obtained. This is the constitutional alterant which such lands require, and, with the organized and decomposable constituents of the mass, will produce most immediate and favorable effects.

By applying this earth in the compost, it will be found, that, although the quantity annually used, may be small, it will, in time, produce an important change, and secure a good degree of retentiveness and productive energy to lands ordinarily too light for the profitable cultivation of any crops but rye or corn.

There can be no doubt, we think, that the running of well-fed hogs on manure heaps is of great value to them; such hogs will not root much, while their constant droppings, especially the liquid portions, are of the most valuable character. Where they run over horse-manure heaps, they keep it compact, preventing the admission of air, and that rapid heating which quite often nearly destroys it. At any rate, in one or the other of these ways, or by partially using both, a large and valuable heap of manure may be annually secured from the hog-yard. Now is the time to begin the process.

HARD CEMENT.—The following cement has been used with great success in covering terraces, lining basins, soldering stones, etc., and everywhere resists the filtration of water. It is so hard that it scratches iron. It is formed of ninety-three parts of well-burned brick, and seven parts of litharge, made plastic with linseed oil. The brick and litharge are pulverized, the latter must always be reduced to a very fine powder; they are mixed together, and enough of linseed oil added. It is then applied in the manner of plaster, the body that is to be covered being always previously wet with a sponge. This precaution is indispensable, otherwise the oil would filter through the body, and prevent the mastic from acquiring the desired degree of hardness. When it is extended over a large surface, it sometimes happens to have flaws in it, which must be filled up with a fresh quantity of the cement. In three or four days it becomes firm.—*Scientific American.*

For the New England Farmer.

WOMAN AND THE HOUSEHOLD.

MR. EDITOR:—I see by quite a long article from the pen of Dr. Alcott, that he seems fearful I do not fully apprehend him. Were this the first time he has said the same, I should be disposed to pass it again in silence; but in justice I would say, his expositions are so lucid, that I consider the idea of misapprehension entirely precluded, if his articles are read with attention; and could he know the interest with which I ever regard what falls from his pen, and how much of my life has been squared by his rules and precepts, he might think, perchance, he is the one who misapprehends. He may call this compliment, or whatever he chooses; it matters not farther than justice is concerned; and yet I feel I have the same right to an opinion of my own, and the same right to express it that he has, though it be at the risk of disagreeing with him, or "calling him out," even.

I know not which of your correspondents have reproached or ridiculed him—for myself, I would not knowingly stoop to either. If I have said aught that he or any one else has so construed, they have greatly erred. If this does not give the doctor satisfaction, I should be very glad to have him address me personally. I will meet him half-way, and that is as much as he can ask of any woman. I have many things I could say to him that would not perhaps particularly interest the readers of the *Farmer*, and I would be the last one to mar the beauty of its fair columns by allusions to personal differences or private feelings farther than justice demands.

He calls upon me or somebody else to tell him "by what right we spend precious time—God's precious gift to man—in changing articles from better to worse," &c. Now allowing we have no right, who shall tell us just how much we may spend? how much of each day shall be given to the culture of "mind and heart," and how much to the care of the body? Who is to blame for the "misdirected efforts" of woman, and who shall teach her just the amount of labor necessary to bestow upon the "brain, stomach and skin," and how much upon the "lungs, heart and muscles?" Who will take the lead in a reformation in such a manner that the mass shall be willing to follow? If that dark-visaged personage whom the good doctor mentions, sends us cooks and dressmakers, what proof can the doctor give us that he has not already sent us "schoolmasters and lawyers, doctors and ministers" as much? To whom, then, can we look? who shall draw the dividing line for us poor women?

In regard to the mere physical labor of woman, I think if he would inform himself, he would not find it less than it was fifty years ago—it has only changed its form. Instead of the spinner, weaver and dyer, we have the palm-leaf braider, the chair-seater, the boot and shoe-stitcher and binder—besides the thousands who congregate in the different kinds of manufactories.

Every mother ought to be competent to oversee her own tailoring and dressmaking—but if those who can afford the expense, shall give the labor to the poor seamstress, that she too may be benefited—who shall dare to complain?

If the doctor knows but one mother in all Massachusetts, who is cook and dressmaker, let him fill his carpet-bag with choice books and then step into the cars some pleasant morning in June—when earth is robed in her richest green and "every warbler's throat's in tune," and ride till he is fairly out into the country. Now he may take a walk among the laboring community—go into their homes—sit by their hearthstones and hold converse with them; to the poor he may give a book to cheer them on in their labors, to the rich he may sell one; he may come to our manufacturing town and see the amount of labor performed by the women and children, or he may go to the green hills of western Massachusetts, among the farmers and dairy-women, and observe the amount of physical labor there called forth. If this does not satisfy him of the truth of my assertions, let me point him to where the tall grass may wave and the church shadows fall above the resting-place of more than one much esteemed or dearly loved friend, who has laid down the burden of an over-tasked life ere its meridian, and left her children, and her place to be filled by another.

But like the doctor, I have said more than I intended; and if he thinks me a bungler with the pen, he must wield it in future himself, and allow me to make the bread.

MRS. H. BARLOW.

Gardner, Mass., May, 1858.

For the New England Farmer.

ROTATION OF CROPS.

The word *rotation*, when applied to agriculture, signifies a succession of different crops instead of a succession of the same crop. It is known that the preparation of elementary substances that enters into the composition of plants, is not the same in all. Probably it is not precisely the same in any two plants. The soil containing the substances for the growth of plants, imparts them as needed, till nothing remains, when the plants will cease to grow. Supposing a particular ingredient for a particular plant were lime, it is evident that when the lime is all exhausted, or drained from the soil, that plant can no longer be produced on it. So also of other plants, and all other substances which compose them.

The rotation of crops grew out of experience. The farmers observed that in most cases, when the same plants were grown for two or three years, consecutively, upon the same soil, it did not yield the same abundant harvest, but when another crop was tried upon that soil, the product was satisfactory. Therefore, observation and experience gradually introduced an alternation of crops. There may not be an entire failure the second, third, or even the fourth years; but each succeeding year, all other things being equal, there will be a diminished crop. But other things may not always be equal. Drought. or cold may destroy or greatly injure a crop of Indian corn one year, and the next year, there being no drought, and an abundance of heat, the crop of corn may be far better than the preceding year. The soil, too, may be so amply furnished with a particular substance for vegetable growth that several crops of the same plant may be raised in succession, before material diminution will be

perceived; but this makes no exception to the principles for a general rotation. Sooner or later this substance will be exhausted, and there would then be a complete failure.

A single crop of wheat may so deprive the soil of one of its mineral constituents, that another crop of wheat would not grow upon it, and yet the soil may still contain abundant mineral constituents for the production of a good crop of clover or turnips. There is no fixed period for a complete rotation. Four, five or six years, is the usual time, unless it be for lands that may advantageously remain a longer period in grass. Rotation may be prevented by keeping up an annual supply of the fertilizing agents of the soil equal to what is taken away by the plants.

Farms were formerly divided into meadow, plow or tillage land, and pasture, and each section was permanently used for these specific purposes, till the meadows were covered with moss, and the tillage ground was so impoverished as to yield inferior crops. The Flemings are the first known to have made rotation a fixed part of their system of agriculture. They insisted that where it was practiced, the land did not need rest, and it was this system which gave their husbandry a pre-eminence over that of every other country at that period. In Scotland, it has been pursued with the very best results. It was also introduced into England, and has become general there, and it is now constantly gaining advocates in this country. I should be pleased to hear more on this subject. J. E. WIGHT.

Hatfield, Mass.

For the New England Farmer.

PEARS ON QUINCE STOCKS.

MR. EDITOR:—I have read with interest the various suggestions that have recently appeared in your pages on this topic. It would seem, earlier fruiting can be attained by the use of the quince stock, and when it is particularly desirable to test the variety, this process may be worth following. But when the purpose is to secure permanent trees of superior character, I have seen nothing that commends the insertion of pear scions upon the quince. On the contrary, I am apprehensive that those who have purchased such trees from nursery puffs, will be doomed to have their hopes disappointed.

It is said pear scions set upon apple stocks, will flourish for a few years and then decay. If this be fact, it is a good reason why it should not be done. Without question, pear scions will grow well on pear stocks. This being so, those who would have pears in greatest perfection, should be careful to start right in their culture. In this, as most other things, "the best way will be found as good as any."

May 8, 1858.

REMARKS.—We do not quite agree with our intelligent correspondent in regard to this matter. We can show him pear trees on *quince stocks* that *have been bearing* for more than 25 years, frequently a barrel of pears each, in a season, and that promise now to bear well for 25 years to come. They are set only 8 or 10 feet apart, and have proved themselves a capital investment. Plant pear trees on pear stocks if you please,—but unless already enjoying an abundance of pears, do not hesitate also to use the *quince stock.*

For the New England Farmer.

HOW TO OIL A HARNESS.

We all know that it is of great benefit to oil our harnesses, yet many of us neglect to do it, because we regard it as a dirty job; but it is easy enough, if done right. My process for doing it is as follows:—First, I take the harness apart, having each strap and piece by itself; then I wash it in warm soap-suds. I used to soak it in cold water for half a day, as others did, but I find that warm water does no harm and much facilitates the job. When cleaned, I black every part with a harmless black dye which I make thus:—One ounce of extract of logwood, twelve grains bichromate of potash, both pounded fine; upon that I pour two quarts boiling rain-water, stirring until all is dissolved. When cool it may be used. I keep it on hand all the time, in bottles. It may be applied with a shoe brush, or anything else convenient. If any one objects to the use of this blacking, fearing that the bichromate of potash it contains would injure the leather, I would just say that this kind of potash will not injure leather, even when used in a much larger proportion. The blacking generally used contains copperas—a sulphate sometimes made of oil of vitrol and iron, and it is found that it will eat out the life of leather, unless used with great caution. When the dye has struck in, I go through with the oiling process. Some have a sheet-iron pan to oil in, which is better than anything; but I have a sheet of iron nailed to a board; it is about two by three feet square. This I lay upon a table; I lay a piece or part of the harness upon this, and with neats-foot oil applied with a paint brush, kept for the purpose, I go over it, oiling every part; and thus I proceed until every part is oiled. The traces, breeching, and such parts as need the most, I oil again. For the last oiling I use one-third castor oil and two-thirds neats-foot oil, mixed. A few hours after, or perhaps the next day, I wipe the harness over with a woolen cloth, which gives it a glossy appearance. Why I use some castor oil for the last coat, is, because it will stand the effects of the atmosphere, the rain, &c., much longer than neats-foot oil, consequently the harness does not require oiling so often, by its use. One pint of oil is sufficient for one harness.

The common way of oiling a harness, is to apply as much neats-foot oil containing lamp-black as the leather will take up; then washing off with castile soap and water. This way is not so good as mine, because it makes the harness smutty, and also the soap that is used contains barilla—a strong alkali, which cuts up and feeds upon the oil in the leather, and the weather, especially if rainy, soon renders the harness stiff and unyielding as before; the wax in the threads is also destroyed, and the stitching gives way. I have experimented with different kinds of oil, and find that the kind, and the process, I now use is the best. J. HART.

Portsmouth, N. H., 1858.

For the New England Farmer.

FEEDING SHEEP—REARING LAMBS.

MR. EDITOR:—In the May number of the monthly *Farmer* there was a communication from Solon H. Berry, of Vermont, on the feeding of sheep, which concludes as follows:

"It is generally understood in this part of Vermont that a breeding sheep will do better not to be in very high flesh, or as the saying is 'fat as a hog.' As this is an important question, I would like to hear the experience of some of our Vermonters upon it."

Although I am not one of "our Vermonters," still I feel some interest in the subject, and will venture to give my opinion.

That sheep will do better, bring more healthy and stronger lambs in a stinted, half-starved condition, or even with decent fare, than with high feed, is contrary to my experience, and it seems to me to be reason and common sense. In all my experience in keeping sheep and raising lambs, extending through a period of nearly twenty years, and being in the habit of feeding higher, probably, than most people, generally giving them corn for some weeks previous to lambing, I never lost a lamb when I was led to think it was in consequence of my sheep having been in too high flesh.

I am willing to allow that my sheep under the above described treatment, were not generally "fat as a hog," and I think it is no very easy matter while they raise one or two lambs each year, to keep them so; still, I have endeavored to come up as near to that point as the nature of the case, and a proper respect for my corn-bin, would allow. I believe that sheep kept in high flesh, with a full flow of milk, are much less likely to disown their lambs.

I have, at the present time, twenty ewes and thirty-one lambs. There are nine pairs, one triplet, and ten single. I have lost none. I do not say that I have ever done any *better* than this, but do say that in several instances, so far as loss is concerned, I have made out as *well*.

I apprehend that the real cause of the poor success of many in raising lambs, lies, not so much in the fact of their sheep having been kept in good condition through the winter, as from some cause or causes a little further back. It requires but a slight acquaintance with the subject to convince one that there is a vast deal of difference in breeds of sheep; some kinds being naturally much more inclined to bring weak and sickly lambs than others. Then, again, many flocks of sheep that formerly did well and brought good lambs have probably degenerated in consequence of sufficient attention not having been given to crossing, a point of vital importance to success in raising good lambs.

I have practiced for a number of years messing my lambs. I have a small enclosure adjoining the sheep pen, with an opening large enough to let them through and keep out the sheep. They will generally begin to eat by the time they are two weeks old. For the past five or six weeks my lambs have taken from twelve to sixteen quarts of meal per day. I am not very particular as respects the kind of meal, though I rather prefer equal parts of corn and oil meal. I have twin lambs at the present time, not far from two months old, that will weigh nearly sixty pounds. If in addition to the meal they have plenty of good hay in a crib by themselves, they will require but little else. They will not be continually worrying the sheep, so that not only the lambs, but the sheep, will be in much better condition on turning to grass than they otherwise would. I have never discovered any injurious effect from giving my lambs so much meal, although I always let them eat all they will. S. D. C.

Sunderland, May 15th, 1858.

For the New England Farmer.

A SPRING CAROL.

BY THE "PEASANT BARD."

Now Spring calls the farmer afield to his toil,
And cares fill the lengthening day;
But hope gives him cheer from the fresh crumbling soil,
And the sweet-scented airs round him play.

Enchanting the songs of the birds, as I rove!
O'erhead,—near-at-hand,—far away;
The hymnings of nature—the warblings of love,
Poured forth on the brightness of day.

There's the same little bird, with the same little song
I heard when a loitering boy,
By the runny brook-side, the soft catkins among,
And sighed for his holiday joy.

But *wish* of the boy, still is *want* in the man;
Life's real, though misnamed a dream;
Youth's visions give place soon to plotting and plan,
And carefulness sobers their gleam.

Ah! long is the road! and how rugged the way,
The past and the present between!
My vision would pall at the desert survey,
But for patches of "gold and of green."

When the sun settles low, and the oxen are tired,
And slow moves the ponderous plow,
Then robin, dear warbler! by pity inspired,
Carols "cheer up! cheer, O!" from the bough.

And evening an elfin-like music awakes;
From the marsh comes the merriment shrill;
The softened winds creep thro' the green springing brakes,
And the moon rises red o'er the hill.

Gill, Mass.

ANIMAL TRACKS OF THE CONNECTICUT VALLEY.

Among the most deeply interesting papers read before the Scientific Convention at Baltimore, was one by Professor Edward Hitchcock, upon the tracks of animals found in the Connecticut Valley. He described the valley as classic ground for these sandstone tracks, ten times more of them having been found there than elsewhere the globe over. As to the age of the rocks thus marked, he had recently concluded that a portion of them, at least, were as modern as the Lias formation. The cabinet of Amherst College contains 8000 individual impressions of these tracks. Professor Hitchcock said that most of his time for two years past had been given to grouping the individuals. He had made 119 species and 60 genera of them. He made 31 bipeds, 55 quadrupeds—18 having more than four feet, 12 without feet, and three of uncertain footing. Upon this he dwelt the more, because in the *Annual of Scientific Discovery*, he had been incorrectly reported as giving up his theory that

they were bird tracks. Among the quadrupeds he had concluded, but without evidence that entirely satisfied him, that five were marsupials—the youngest of the mammalials. Of the bipeds, 14 were of the thick-toed birds, like the ostrich, and 9 of the narrow-toed tribe. These statements of the most accomplished judge of such matters in the world, and a man of great caution, give us astonishing glimpses into the period when such a variety of extinct monsters went tramping or writhing up and down the valleys of New England.—*Boston Journal.*

For the New England Farmer.

UNDERDRAINING.

MR. EDITOR:—Taking some interest in underdraining, theoretically, I have read three articles in your late numbers on this subject—two by S. F., and one by Mr. Nourse—with a desire to get some clearer views upon an agricultural topic now exciting much attention.

I understand your correspondent S. F. to combat the idea that "*all* land requires to be drained." This he seems to do with a quiet smack of self-satisfaction, though the notion has not much vitality, in this country at least, and according to his statements, but little in England. He may, however, have killed this feeble extravagance, yet at the waste of some of his best ammunition. Strike lightly on the weak!

In speaking of the dampness of the soil of Great Britain, your correspondent observes, "English farms may perhaps need draining; American farms need irrigation." This may be true—but certain it is that both soils need just moisture enough for the proper development of roots, and no more. S. F. it would seem, is unacquainted with the theory of underdraining, or else some of its benefits were forgotten, or thrust aside as problematical, when he penned his articles. Underdraining, as I understand it, by carrying off the surplus water, equalizes the *temperature* and *humidity* of the soil during the summer months, while it deepens and improves it by giving it a freer circulation of air, which at night is cooling, and leaves in its apertures *moisture* in the form of dew, which it would not do in a hard or baked state of the soil. Figuratively, underdraining gives greater lungs, and consequently more vitality to the land subjected to it. Porous soils, and those not having a hard, impervious pan ten or twelve inches beneath their surface, may not need underdraining, as the air passes freely through them, and moisture may be drawn up from a greater depth by capillary attraction.

And let me say here (though I may refer to it again) that the idea of the salts washing out and running to the ocean, need excite no fears for a soil so retentive of moisture as to need underdraining.

My friend S. F. may have seen low lands with more or less water standing on their surface in June. In July it may have evaporated (not sunk;) and in August the soil is hard and cracky. In surveying such a piece, after wiping off the perspiration from his face and making his "bow," he would probably exclaim—"Inscrutible powers, what a dry piece of land is this! Plague on our hot summers! It's 'a deficiency of moisture, not an excess,' that American farmers have to fear and guard against. But if we can't get showers, mulching would be the remedy, if not expensive and impracticable, to prevent the evaporation." A friend might suggest underdraining. "That would only carry off the water the sooner! Draining is preposterous. But it is a self-evident fact, that as the water is gone, it needs irrigation."

But I may be doing S. F. injustice; for he says in his last article, that in the United States "draining will be confined to swamps and low lands." It seems by this that he would drain swamps and low lands. He cannot, however, mean those which lose their water in a drought and become baked, for this would be draining soils already parched up, and which, as I understand him, need "irrigation"—at least in the latter part of the summer. I suppose, then, he means those lands only which present water to the eye the year round! I venture the opinion, after some little hesitation, that his "good company," Prof. Nash, would differ with him here.

And here I would notice his California fact, which asserts that the "river bottoms," so called, are only cultivated there, which soil is constantly moist, "almost to its very surface." The soil there," it is stated, "which is not thus kept filled with moisture, bakes and cracks in the dry season, and cannot be cultivated at all, until by some means the land shall be irrigated."

Now this land, which he would irrigate, (a frequent and expensive job,) in my opinion, should be underdrained. By this operation the water would *sink*, not *dry up*, and the land would become porous and well ventilated, and would preserve a proper and almost uniform moisture perhaps for half the year; and being thus porous, would not be so liable to crack, and would probably be rendered very valuable for the purpose of cultivation, even without irrigation.

But S. F. would demur at this, especially if it were underdrained with tile; for he says, "I object to tile draining that it is exhaustive," for it "hastens the decay of vegetable matter in the soil," as its advocates say, which he thinks would be "far more encouraging to the race of farm skimmers than to those who wish to improve the soil." The sooner the vegetable matter is used up, the sooner the land is exhausted! There is undoubtedly vegetable, no less than mineral matter, deep in the soil, which the plow will not turn up; and S. F. seems to think that it should remain there undisturbed and unpenetrated by the roots of plants and by the decomposing and life-giving influence of the air, because, forsooth, the sooner you get at it and use it up, the sooner the land, will become exhausted! This most every one would regard as poor economy. Good farmers spread manure on their soils with the purpose of raising crops. These crops imbibe the manure, and, using it up, tend to exhaust the land. Would it be well to plant nothing, so that the manure may remain in the soil?

By laying drains three or four feet deep, we get a far deeper soil, of nearly as good a quality as on the surface, and hence a greater resource; for water, air, manure and warmth all penetrate it. And when the roots are attracted by deep nourishment, they will strike deeper for it and flourish greatly by it. "The roots of our corn

and other crops will, under favorable circumstances," says Prof. Johnston, "descend to a depth of four or five feet." What practical farmer does not know, that the best way to avoid the effects of drought, is to deepen the soil? Annually many of the deeply penetrating roots would be left in the soil, for they are larger, and more of them, and would serve as pabulum (supplying the carbonic acid) for new crops—having all the elements of their decomposition brought down to them. Such, at least is the opinion of one, that tile draining "is exhaustive." But if *tile* draining is exhaustive, is not stone or other kinds of draining? And would not underdraining, by any means, be exhaustive to "swamps and low lands," to the draining of which S. F. seems to interpose no positive objection?

As to the salts of the manure or soil being washed away (alluding to this point once more, as it stands out prominently in the communication under notice,) lands that are not all gravel have an affinity for lime, soda, ammonia, &c., in their common manurial forms, and probably absorb them as they are retentive in clay or vegetable humus; so that little of them could be washed out until the soil was sufficiently supplied with them, and then if a little escaped to "the ocean," it might well be spared. Urine is said to be tasteless when leached through a body of soil, having left its salts in the earth.

"What we lack is bottom to our farms," said the Connecticut farmer. Undoubtedly, where the subsoil is a loose sand, under a few inches of surface mould, it is too porous and of an improper nature to retain the manurial agents. Neither underdraining, nor perhaps any thing else would improve such soil. But while some lands have no bottom, others have a hard one too near the surface, and still others are all bottom. Underdraining would undoubtedly be of benefit to the two last. The desideratum is to get the bottom in the right place.

Your industrious correspondent writes with commendable feeling, though he seems to entertain a spite against the English notion of underdraining, the absurdity of which seems to him as "plain as way to parish church." Some of his points, however, prove too much for the harmony of the others—besides elaborately combatting (as before observed) the idea of *universal* drainage, the benefit or economy of which very few admit. D. W. L.

W. Medford, April 18, 1858.

For the New England Farmer.

YOUNG MEN AND WOMEN ON THE FARM.

MR. EDITOR:—Why is it that so many of our young men and women are inclined to dislike an agricultural life? Is it because the work is too hard, or because there is no pleasure in it, or is it because they think it degrading? or because the occupation is unhealthy? These questions properly answered, would be of public consequence.

1. They are not brought up to take an interest in that branch of industry. 2. They think they can live easier in some other occupation.

I do not say that all ought to remain upon the farm, but I think that if they are rightly encouraged, there will be more thus inclined. Let children obtain a good education, for we want what are called educated farmers, and the more the better; it is not the farmer only, but educated *farmers' wives* that are wanted, so that they can have an even yoke together. I am sorry to say, that, in my opinion, there is not more than one in twenty of the young women properly educated for a farmer's wife. Let us hope that these things will receive more attention and be corrected in the future. J. E. WHITMAN.

South Londonderry, Vt., 1858.

LYON'S PATENT COPPER LIGHTNING CONDUCTOR.

Lightning rods constructed upon proper principles and properly applied, are undoubtedly an important protection to our buildings, but if they do not possess these qualifications they are absolutely worse than no rods, as they invite the fluid to themselves without possessing the power to convey it harmlessly away.

With regard to this particular rod, we prefer to give the opinion of CHESTER DEWEY, Professor of Chemistry and the Natural Sciences in the University of Rochester, N. Y., to giving one of our own.

"The use of copper is proposed for *two important* reasons: First, its high conducting power of electricity, and second, its less exposure to oxydation in the atmosphere. It is agreed by philosophers that the conduction of copper is from six to eight times that of iron, and that in either metal the conduction is dependent upon the surface, and not upon the solid contents of the metal, or that the greatest surface conveys the electricity with more facility. Hence, while the flattening of the rod increases the surface, with less weight, the conduction is augmented. As copper is a better conductor of heat than iron, the larger surface of moderate thickness is the protection against the fusion of the rod by any discharge of lightning. The rusting of iron diminishes its conducting power, but copper is far less liable to rust.

The fixings of Lyon's Rod comport with the best arrangements of other rods. The part which projects above the building is made adequately strong, and the terminating points are to be fully silvered or gilded. The passage of the rod into the earth should be to a point of permanent moisture. Every man who seeks this protection should look to this point and be satisfied fo. him-

self, as dry earth is an insulator, and may prevent the protection. An iron rod may form an adequate protection; a copper rod must be a safer instrument, and as it will not rust, it may, on the whole, prove the more economical of the two. The amount of protection and security is the great object."

For the New England Farmer.

"ERRORS ABOUT THE HONEY BEE."

MR. EDITOR:—Such is the title of a short article in a late number of the *N. E. Farmer*. The statements therein made are partly true, and partly false. First, it is true, that the wax of which the comb is made is a *secretion* from the honey bee, and is only worked when there is sufficient warmth in the hive as to make it quite soft, or plastic. This is one great reason why comb is made much faster during the night than in the day time. In the former case, the bees being all in the hive, their apartment is warmer, from the animal heat, than in the day time, when many of the bees are off in the fields, gathering honey, &c. A stock very much reduced in number, can build no combs, even when honey is plenty in the flowers, simply because there are not bees enough to produce sufficient heat to make the wax in working order. It is true also, that when bees gather pollen, or bee bread, they make a *business* of it, as much so as they do in gathering honey, and the two are seldom or never done by the same bee at the same time. The honey bee does one thing at a time, and thoroughly does it.

Again, it is *not true*, that the honey bee can manufacture honey, or that he has any contrivance, or apparatus for this purpose. If this was the case, bee-culture might be made a very profitable business. This question can be easily settled by any one who has bees. I have tried the experiment time and again, and always with the same results, for the bee is true to its instinct, and that instinct cannot be much, if any, improved, or changed by art. She has no laboratory for making honey. She has a wonderful instinct for *gathering honey*, or sweets of any kind, and wherever she finds these sweets, she fills her honey sack, carries it to her house, and then deposits it, just as gathered. If it be honey when taken into her sack, it will be honey when ejected from it; if it be molasses, or sugar, or these combined with any other ingredients, it will be the same when deposited in the comb, nothing more or less; if there was no true honey in the mixture, there will be none, after passing through the honey sack of the bee. Of this *fact* any one who keeps bees may satisfy himself, without much trouble. The mixture, molasses, sugar, or whatever it may be, may have the peculiar smell of the bee, but it is not honey; there has been no change, its chemical character is the same as it was before being taken up by the bee. I shall have more to say on this subject at a future time. In regard to gender, I have used the feminine, though the working bee is a neuter, and very properly so called, as the microscope reveals no organs by which to designate its sex. The different classes of bees, which make up the family, will constitute a future article. NORFOLK.

King Oak Hill, 1858.

EXTRACTS AND REPLIES.

A BOOK ON AGRICULTURE FOR COMMON SCHOOLS.

Do you know of any book on the subject of agriculture suitable to be introduced into common schools? W.

Newport, N. H., 1858.

REMARKS.—Yes sir. The Massachusetts Board of Education, as long ago as the year 1839, took a noble step in introducing some work on the subject of agriculture into the common schools of this State. That Board contracted with the late Honorable Judge BUEL, of Albany, to furnish a suitable work, and he compiled, principally from his own writings which had been previously published in the *Cultivator*, a work which we have always referred to with entire confidence. It was introduced into our common schools, but with what influence we are not able to say. It ought to be there again—in every school of every district in the Commonwealth, and, in our judgment, would lead to incalculable benefits to those successively entering upon the theatre of life. It is entitled, "*The Farmer's Companion; or Essays on the Principles and Practice of American Husbandry.*" It is written in a plain, common-sense style, and now that we have been occasionally referring to it for more than ten years, feel free to say that we have not yet found a paragraph in it which would lead a novice in farming into error. The book is now published by the Harpers, and is for sale for about fifty cents a copy by *John Raynolds*, at Concord, this State, or at this office.

PRACTICAL FARMERS AS WRITERS.

I often observe articles in your paper which speak in strong terms in favor of agriculture, and I am much rejoiced to see them. But never, or rarely ever, do the writers say anything as to themselves being farmers. Now some men are not apt to pay much attention to theoretical farming; they do not like to hear anything on the subject from any one who is not a practical farmer. To such I would say, turn to a recent article headed "Hard Times," and read it; I say Amen to it, and to all others of a like character. I hold the occupation of cultivating the soil to be as honorable as any other occupation in the world, to say nothing of the profit and true happiness there are combined in it. O. A. C.

Easthampton, April 26, 1858.

HALL'S HAND POWER STUMP PULLER.

If "*A Subscriber*" at Pittsford, Vt., had sent his name with his communication—as all correspondents ought to do—we could have communicated with him. As it is, we have sent one of Mr. Hall's Circulars describing his Stump Machine, to "A Subscriber," Pittsford, Vt., where he will probably find it at the post-office. *Nourse & Co.*, 13 Commercial Street, Boston, are the Agents for New England.

MASSACHUSETTS DAIRY COWS.

Seeing the communication of "Essex," in last Saturday's *Farmer*, I thought that I would state a fact or two, in confirmation of his opinion; *i. e.* that Massachusetts dairies produce more butter to a quart of milk, than do the dairies of England and New York, according to Messrs. Horsfall and Holbert. Mr. L. P. DEMPSEY, of this place, has a cow that gives fourteen quarts of milk per day, and seven quarts of it make a pound of butter. Her feed is English hay, three quarts of shorts and three pints of meal a day. In the next barn is a cow, owned by Mr. ISAAC DEMPSEY, which gives *sixteen* quarts of milk per day; seven quarts of it make one pound and one ounce of butter. Her feed is English hay, three pints of meal with *no* shorts. Neither of these cows was bought for anything extra, but if any one thinks they can beat them, let them try.

Danvers Centre, May, 1858. H. O. W.

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CHEMICAL ANALYSES OF CORN-COBS.

Have you the analysis of the corn-cob, made by Dr. Jackson? If so, please give it to us, as an aid to judge of the profit or loss to be made in grinding and using the cob for feed.

Groton, 1858. CORN COB.

REMARKS.—Below we give an analysis by Dr. CHARLES T. JACKSON, of this city, of two samples of Indian corn—one grown in Rhode Island and the other in Massachusetts. The Doctor says:—

The following analyses were undertaken with the view of ascertaining how much nutritive matter is contained in the cobs of Indian corn, and also how much of each mineral salt they had extracted from the soil upon which they grew. Never was a more important subject laid before me than the investigation of the chemical nature of the Indian corn plant, since it concerns the chief agricultural industry of our people. Were as much time and expense devoted to the analyses of our staple crops, and the soil in which they are cultivated, as there is annually expended on metals and ores, how soon would the farmer reap the advantage of a truly scientific and profitable agriculture. The age demands progress in this science, and, I trust that, ere long, complete investigations will be made in the other parts of this valuable plant, as well as in several others among our economical products.

Analysis of the Corn-cob from the Farm of Thomas Andrews, in Smithfield, Rhode Island.—This corn was produced by admixture of the two varieties, "Canada" and "Red-cap." It was remarkably prolific, with a very small cob, weighing only 124 grains.

The matter soluble in ether, alcohol and water was found to be in the following proportions: In 100 grains of the ground cob, the whole amount dissolved was, 3.145 grains, or about 3¼ per cent. of the cob.

	Grains, or per cent. of cob.
A sicative yellow fixed oil	0.323
Sugar	0.242
Dextrine (gum) and some albumen and extractive	2.557
	3.122
Loss	0.023
	3.145

The saccharine matter did not crystallize, and probably is identical with grape sugar or glucose.

Analysis of the Ashes of the "Tuscarora" Corn-cob.—This corn was grown at Long Meadow, on the Connecticut river, in Massachusetts. It is a large-grained corn, very rich in starch. The cob weighed 630 grains. When burned it gave 12.2 grains of ashes, which yielded, on analysis, nearly 2 per cent. of the cob.

	Grains, or per cent. of cob.
Potash	0.6430
Soda	0.1970
Silica	0.0714
Phosphate of lime and magnesia, and oxid of iron	0.0800
Phosphoric acid	0 0800
Chlorine	0.0630
Unburned carbon	0.1430
Oxid of iron, carbonic acid, and loss	0.6590
	1,9364

—

POULTRY.

I wish you would inform me which is the largest breed of poultry, and where I can procure the eggs, as I wish to breed for the market.

Newburyport, May, 1858. W. W.

REMARKS.—Shanghaes, Cochin Chinas, Chittagongs, and other large fowls, are scattered all over New England; it is probable that all these are in your town. But the *largest* fowls are not always the best for market. A mixture of Shanghae with our common poultry is better than the pure of either. The *White Dorkings* are common, and all things considered, perhaps the best breed of poultry we have. The cocks are handsome and bold, the hens good layers and good mothers. They are plump, have rather short and yellow legs, and the flesh is juicy and sweet. When nicely dressed they are always attractive.

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EGYPTIAN AND HUNGARIAN MILLET.

Is the Egyptian and Hungarian Millet seed for sale at the seed stores in Boston? What is the price, and which is the best kind? W.

Newport, N. H., 1858.

REMARKS.—The Egyptian millet would be about as profitable to raise for stock as rail fences would; it does not ripen well here, and is altogether unsuited to our New England purposes. The Hungarian millet seed may be purchased at Nourse & Co.'s, 13 Commercial Street. But why not sow the common millet, *Panicum miliaceum*, about which there is no question, which grows rapidly, ripens its seed, and is an excellent plant for soiling stock, or gives you capital seed for young poultry?

—

PACKARD'S WHITE STRAWBERRY.

In consequence of an article in your paper of May 1st, I was induced to obtain some of the above plants, which will undoubtedly prove to be nothing more or less than the old white wood strawberry, a *discarded* variety. I give this timely hint that others may not meet with the same disappointment. E. W.

Dedham, May 29.

PLASTER FOR POTATOES—TIME TO SET YOUNG APPLE TREES AND TO PRUNE OLD ONES.

I wish to inquire on what land it is best to apply plaster, wet or dry?

Also, what is the best time for setting young apple trees, and for trimming old trees? Is it best to put manure under young trees, or to set them without any?

A SUBSCRIBER IN VERMONT.

REMARKS.—Use the plaster on your dry land. Set young apple trees in the spring any time before the leaves start—but if more convenient set them in the autumn, after the leaves have fallen. Old, well rotted compost will be useful about the roots, but if the manure is all fresh put it away from the roots about the sides of the hole which has been dug to receive the trees. Apply fresh manure in the autumn, and dig it under two or three inches below the surface.

☞ *Never prune an apple tree in the months of March, April or May.* All the borers in the world do not commit half the havoc in our orchards, that the pruning-knife and saw do, applied at the wrong season of the year. In the spring the sap is abundant, thin and active, and where limbs are taken off it passes through the pores of the wood to the surface, and coming in contact with the atmosphere, becomes bitter and acrid, runs down the bark and poisons it, so that it is often killed quite into the wood. This is what causes most of the *black lines* so frequently seen on apple trees, and which, in thousands of cases, ends in the death of the tree.

Old men persist in pruning in the spring, because they think it the most convenient time, and because their fathers did. *Young men* may entertain no fears that there will be too much orcharding, so long as old men continue the habit of mutilating and poisoning their trees.

—

CANKER WORMS.

In reading your last *Farmer*, I was informed that the canker worm had hatched; let me advise that as soon as they are large enough to string down by their webs, and before the trees are much damaged, tar the trees, then with a pole or otherwise, give the limbs a sudden jar, and the worms will string down by their webs; then with a pole strike them down to the ground, and in a little while you will find them stuck in the tar as they attempt to ascend the tree. Take a warm day to dislodge them, beginning about 10 o'clock, A. M. Employ all hands while the work is going on, and not leave until every worm is on the ground, and the trees are safe.

Rockville, May 22, 1858. P. W. MILLER.

—

VERMONT AHEAD.

Mr. ISAAC ALLEN, of Salisbury, Addison Co., Vt., fattened a pig, which was killed April 15th, at 360 days old, and when dressed weighed *five hundred and ninety-four pounds.*

E. H. WEEKS.

EGGS OF THE GUELDERLAND FOWLS.

Can you, or any of your subscribers, inform me where I can obtain eggs of the pure Guelderland, or Devereux fowls? G.

Marblehead, Mass., May 3, 1858.

—

SALT FOR MANGOLD WURTZELS.

I would like to know the meaning of "Don't forget the salt," in Mr. Lowes' letter to Mr. French, with regard to mangolds. I am planting some this spring, and others are turning their attention to the mangold wurtzel in this vicinity.

Norwich, Vt., May, 1858. W. D. BAXTER.

REMARKS.—Salt, in England, is considered one of the best dressings for this crop—Mr. Lowe is of opinion that it will invariably greatly increase it.

For the New England Farmer.

UNDERDRAINING.

Much has been said and written upon the subject of land drainage, and with some effect; but if we are to judge from the thousands of acres that now lie waste in every State in the Union, it would seem that there is yet room for much to be done.

Probably, every owner of a large farm has many acres of land now entirely useless, on which nothing is grown but coarse grass or other semi-aquatic plants, which might, with a little judicious expenditure, be brought into a state fit for growing any useful product of the soil—and, indeed, be the best land for farming or gardening purposes.

Land drainage is becoming a science, and will yet be practiced very extensively in the United States; not only will the land, now flooded with water, be reclaimed, but much of the upland, which now bears moderate crops but has a tenacious subsoil holding stagnant water within a few inches of the surface, will be made earlier, lighter and warmer by thorough drainage; and the farmer will find it a profitable investment, paying a much greater per cent. for the money invested, than bank stock, railroad stock or rented houses.

Much of our swamp land lies very level, and many owners consider their particular pieces undrainable, "because there is no fall,"—they may even have dug a few ditches hither and thither over the piece, but to no purpose, for want of a good outlet, the one made being, perhaps, on the highest part of the land. Unless an instrument has been put upon the land and the inclination carefully determined, the owner's impression cannot be depended upon, and in such a case is usually erroneous. It may be impossible for the unaided eye to detect the slightest descent in any direction, and yet the land have a sufficient inclination for thorough drainage. A few minutes' work with a spirit level would settle this question, and leave the farmer with some practical knowledge of the inclination of his land and the proper course for his drains.

There is no danger that too much water will be taken from the land, for all soils which are so tenacious as to need draining at all, will hold in suspension as much water as can be used by the

crops, and when the surplus water is carried off, the drains will stop discharging. The fact that most drains discharge throughout the year is an evidence of their value.

Stagnant water having no other means of escape from the soil, will be partially carried off by evaporation; this process causes the land to be very cold, sometimes making a difference of from 10 to 15 degrees. If a certain amount of water is evaporated, a certain amount of heat must, of course, be used up in evaporating it. It is found, I believe, that 10 degrees of heat are required to evaporate 1 pound of water from 100 pounds of soil, and that heat might, but for the water, have been used in raising the temperature of the soil. Water also prevents the summer rain, which has passed through the heated atmosphere and the heated surface of the earth, from passing down deep into the soil, carrying the warmth it has gained above to the roots of the plants, which would be much benefited by it; it also prevents air from coming to the roots by stopping up the pores.

Warm land is early land, and it is often that a piece which has been drained can be planted a month earlier than the same piece before draining.

Some crops may be grown to moderate advantage on cold lands, but there are others which cannot be grown on such land with any profit; if, therefore, we wish to increase the variety of produce, we must drain the land. If land is saturated up to within a few inches of the surface, then much of the water that falls upon it during a heavy shower, finding no chance of passing down through the soil, will run off upon the surface, carrying many valuable properties, and from year to year impoverishing the land. Drainage should be so thoroughly done as to allow no surface-washing unless the land stands very steep or the rainfall is very heavy.

Boston, May, 1858. J. HERBERT SHEDD.

THE FARMER'S MOTTO.

Gen. Bierce closes an Agricultural Address, at Twinsburgh, Ohio, Sept. 17th, 1857, as follows:—"Let the farmer's motto be, then, 'good farms, good stock, good seed, and good cultivation.' Make farming a science, in which your heads as well as your hands are employed; let there be system and reason in all your operations; study to make your farms beautiful, and your lands lovely; entice, by kindness, the birds to visit, and cheer your dwellings with their music; I would not associate with the man or boy, that would wantonly kill the birds that cheerfully sing around our dwellings and our farms; he is fitted for treason and murder. Who does not, with the freshness of early morning, call up the memory of the garden of his infancy and childhood? the robin's nest in the old cherry tree, and the nest of young chipping birds in the currant bushes? the flowers planted by his mother, and nurtured by his sisters? In all our wanderings, the memory of childhood's birds and flowers are associated with our mother and sisters, and our early home. As you would have *your* children intelligent and happy, and their memory in after life, of early home, pleasant or repulsive, so make *your* farms, and *your* children's home."

For the New England Farmer.

IS FARMING PROFITABLE?

BY WILSON FLAGG.

What is the meaning of this question, and what is the signification attached to the word profitable? Is it intended to be applied to those occupations only that lead to riches; or ought it to be applied to every honest and healthful employment that affords to the intelligent and industrious a good livelihood, and may lead to competency? It is plain that the question respecting the profitableness of farming cannot be answered, until we have fixed upon the definite meaning of the term, and an intelligible limit to its signification. Some men would refuse to call any business profitable, by which they could not double their capital as often as once in two or three years; others of equal intelligence believe themselves to be very profitably employed, as long as their income affords them a sure and comfortable support. The experience of mankind has determined that six per cent. a year is a reasonable profit on capital, because by investing in any kind of stocks that afford a greater rate of interest than six per cent., the safety of the capital is endangered. This is a law of trade which might be explained by a process of reasoning too lengthy to be introduced in this connection. We will at present deal simply with the fact that almost all property which is perfectly secure yields but a low rate of interest.

It seems reasonable, therefore, that in order to determine the profitableness of farming, we should consider whether the farm and farm stock will yield six per cent. of their rateable value. After adding this interest to the sum which the owner of the farm—if he be a farmer—can earn upon it by his own hands, we might compare its profitableness with other safe kinds of business. Estimating the farmer's own time as worth two dollars a day, leaving out holidays, it may be called $600 a year. If his farm, his buildings and stock be valued at $7000, the interest of this sum in six per cent. stock would be $420. The farm, therefore, with his own labor upon it, ought to yield him about $1000 a year, or its equivalent, to be considered profitable, on a moderate, but just and liberal calculation. The question is not strictly whether it yields so much money, but whether it enables him to live as well as the majority of men in other business whose income is but $1000 per annum.

There is a great deal of difficult and tangled reckoning to be used, before a farmer can arrive at the exact amount of his own profits. A merchant's clerk who receives $1000 a year, may easily make an exact estimate of his profits and expenses, provided he lives upon his salary alone. His profits are the amount of his salary. His expenses may be easily recorded in an account-book. We will suppose one of many cases. Our merchant's clerk lives in the suburbs, about ten miles from his office. His travelling expenses of all kinds may be set down at $150; his house-rent, $150; butcher's bill, $125; grocer's and baker's bill, $200; shoes and clothing, $175; help, $75; miscellaneous expenses, $125.

Our farmer, knowing the salary of the merchant's clerk, who is his neighbor, believes him to be in a more enviable situation than himself.

"He has no capital, yet without it he earns about as much as, on a moderate calculation, I ought to obtain from the profits of my farm united with those of my own labor. Yet I work as hard as any one of my hired men, and at the end of the year, when I compare my profits and expenses, I am obliged to call my own labor almost nothing, or reckon the interest on my property as nothing, in order to satisfy myself that I have earned half as much as the merchant's clerk obtains by writing eight hours a day. It must be true that a farm is poor stock, and that farming is unprofitable business. Seven thousand dollars, the rateable value of my farm, if invested in safe bank stock, would yield me a sure income of $420, which would amply support me and my family, if we preserved our present economical habits."

The merchant's clerk arrives in the middle of the farmer's soliloquy, and invites him to compare notes. The clerk insists that the farmer is better off than himself, even on the supposition that the clerk could be always sure of his salary. "You remark," says the clerk, "that your farm is so much capital sunk; because with the aid of it you can earn only about as much as you could probably earn with your hands in other business without it; and only half as much as I can without any capital. You have taken only a speculator's view of the case. Let us consider it in an economical point of view, and I think I can prove your condition to be better than mine. You contend that you ought to earn as much I do, to be equal with me. You would then have this advantage over me; your farm is a sort of anchor of your fortune, which must prevent its being entirely wrecked. I have no such anchor. You would be satisfied if your farm and your labor yielded you $1000 a year; but you deny that they yield you more than half that sum. I think I can prove the contrary.

"It is difficult to make an accurate estimate of family expenses in your case, and proportionally difficult to estimate your profits. If you want a head of cabbage or half a peck of potatoes before they are stored, you take them from your grounds, and do not credit them to your farm. When I procure the same from the market, I pay five cents for the first, and fifteen cents for the other. You should, therefore, charge five cents for every cabbage, and fifteen cents for every half peck of good potatoes consumed in your family, to the credit of your farm, when you are comparing notes with me. The same you should do with relation to every other article of your produce and consumption, however insignificant, for which I am obliged to pay money; because if you were in my situation, and had neither garden nor farm, each of these trifles would assist in forming an aggregate of very considerable amount, in the course of the year! Farmers do not always take these trifles into their account, when they compare their own condition with that of their neighbors.

"With us these trifles are luxuries, and we pay a high price for many things which are so abundant with you that you are willing to waste them. Your farm furnishes you with these luxuries at apparently so small cost, that you regard them as unworthy of any account; yet if you examined every item of my expenses, you would find a very considerable sum laid out quarterly for these things. Fifty dollars a year, at least, is required to furnish my family with articles that might be classed under this denomination. So much, therefore, in comparing your circumstances with mine, is to be passed to the credit of your farm.

"I pay $150—my travelling expenses—for country air. This costs you nothing, but it is to be subtracted from my salary, and brings me down $150 nearer to the standard you have assumed for your own profits. Many a merchant residing near Boston, has paid a thousand dollars or more, for an acre of land adjoining his house, to be used as mere space, and kept in grass as a pleasure ground, and which after all is as needful for health as for pleasure. This is a luxury which the wealthy only can enjoy in the suburbs of the city. All the inhabitants of the city are obliged to pay a heavy tax for water. It is the multitude of such expenses that renders it so difficult to live on a small income in the city.

"If my income is double yours, while you can obtain with five hundred dollars, all that I can obtain with one thousand, it is plain that your five hundred is equivalent to my ten hundred. I am supposing that you live in every respect as well as I do; that you have as many comforts and conveniences, and as many luxuries as I do. This is undoubtedly true of our farmers compared with our salaried men. I believe the majority of farmers, whose farms range from $2000 to $8000 in value, live as well as the same number of salaried clerks, teachers and clergymen, whose salaries range from $500 to $1200 a year.

"But you reply that we live more at ease. It is true that we perform less corporeal labor, but we suffer more confinement. We have more ease, you more independence. We are obliged to wear better clothes than you. It is one of our misfortunes that we are obliged to dress according to an expensive style established by custom. This furnishes another article of expense which is much greater than yours in the same department. We are, with our families, more directly under the tyranny of fashion than you are. This difference between us constitutes one of your advantages."

Farmer.—"In the world you are considered a gentleman, and I a clown."

Clerk.—"I will be candid, and will admit that in certain situations, as in a ball-room, or at a tea-party, we should probably be received with more favor than you. But were American society to be graduated as it is in Europe, you landowners or yeomen would be placed some degrees above us clerks and salaried men, who are dependents. At political meetings you have at present more consideration than we. A farmer, other things being equal, is more likely than a salaried man to be elected a representative to the General Court, to be made a Justice of the Peace, and to be elected to many other political offices. We clerks, obtain, comparatively, but little political consideration. The account is, therefore, very evenly balanced between us. If we are received with more favor in social circles, you obtain a great deal more in political circles, because your property, though small, lifts you above want, and makes you independent."

Farmer.—"This may all be admitted; but I have often thought that if I could have sold my property for cash in early life, and invested it in

trade, and become myself a trader, I might now, at the approach of old age, have been independently rich. But I have not increased my property, because the profits of my farm have only afforded me a living."

Clerk.—"Perhaps it would have been so. But while you were shaking the dice of trade, fortune might not have favored you. The chances would be against your ultimate success. The statistics of trade show, that only a small proportion of those engaged in it make an independent fortune, and more than half of them die with insolvent estates. Still it is not to be denied that trade or speculation affords almost the only chances for becoming rich. The farmer of moderate possessions cannot grow rich by agriculture. But it would be idle to say for this reason that farming is unprofitable. I cannot grow rich upon my salary; but I do not, on this account, deny that my occupation is profitable. I am willing to admit that any business is profitable, that ensures one a comfortable livelihood. But your situation is better than mine, inasmuch as while it affords you a comfortable living, your farm secures you from absolute want, which is liable to come upon me, were I to lose my health, or to be turned out of employment.

"In conclusion, I would say, that if you desire wealth, you must engage in trade and speculation, with all their risks and dangers; if you desire the appearance of wealth, without fortune and without independence, be a clerk or an office-holder; but if with only small possessions you would enjoy both freedom and independence, and obtain dignity and respect, which are better than *gentility*, and with all these more than an average amount of the comforts of life—keep your farm."

For the New England Farmer.

FRUITS OF NORTHERN CALIFORNIA.

The following account of the fruits indigenous to the region about Humboldt Bay was received from a young man who resides at Union, on the Bay, and who has devoted some attention to the subject. As this is comparatively a new field for the study, it may not be uninteresting to have a brief description of the species he enumerates.

The native Crab Apple is found there, the same kind as that in our western States. The Service Berry, the bushes of which are low, the fruit in clusters as large again as the common bilberry, and very good. The wild Olive has fruit about the size of the seedling olive; when in blossom their fragrance fills the air. There are several kinds of Currants, some of which are very ornamental when in flower; there are also several species of Gooseberries, one of which is covered with prickles, both bush and berry; there is another which has no prickles, and resembles our wild purple variety. There is another berry which resembles the currant in size and form; the bush is much like the whortleberry. The Salal berry grows there; this is described by Kenrick in his Orchardist as being about the size of a common grape, of a purple color, of a sweet and pleasant flavor; it grows in clusters. The Salmon berry, which is a species of raspberry, is found in abundance, and he esteems it the best berry he ever tasted, and thinks it highly worthy of cultivation; there are some under culture in his garden at Union, on the Bay. The black raspberry, running blackberry and whortleberry are abundant. There are several species of berries which are said to be poisonous, whose names are not stated.

No nuts grow near the coast, except Hazlenuts. In the mountains are other kinds. The forest trees in the vicinity of the Bay are principally redwood, Oregon pine and occasionally ash, alder, maple, and a few other species. On the mountains are seen oak and several kinds of pine; there are several kinds of shrubs which are very ornamental. The myrtle is an evergreen and has clusters of blue flowers; the wild syringa is very fragrant when in flower; the snowberry is a native there. O. V. HILLS.

Leominster, Mass., 1858.

THE MILK PLOT THICKENS, BUT NOT WITH GOOD CREAM.

The few facts which we stated last week in relation to frauds in milk in this city, have caused some persons to look nearly as blue as does the article which they vend for milk. As we believe that it is better to *prevent* crime than to punish for it, we give below the law of 1856, upon the adulteration of milk, so that those who offend may know what the legal penalty of such crime is.

AN ACT TO PUNISH FRAUD BY THE SALE OF ADULTERATED MILK.

Be it Enacted, by the Senate and House of Representatives,

That if any person or persons shall adulterate, by water or otherwise, milk to be sold in this Commonwealth, or if any person or persons shall sell, or cause to be sold, milk adulterated by water or otherwise, knowing, or having reason to believe the same to be so adulterated, he or they shall be held guilty of a misdemeanor, and on conviction, be fined twenty-five dollars for the first offence, one-half of which shall be paid to the complainant, and for every subsequent offence fifty dollars, one-half of which shall be paid to the complainant, or by imprisonment in the House of Correction not less than two nor more than six months.

Approved by the Governor, May 30, 1856.

We hope the city press will generally copy this law, and thus cut off the apology of those whose consciences do not accuse them, if any such there be. It will somewhat interfere with their traffic, to be sure, and make it slightly inconvenient for their *profits*, and they will not like it.

"No rogue e'er felt the halter draw,
With good opinion of the law."

We tender our thanks to those persons who have voluntarily given us new facts in regard to this mean and iniquitous traffic, and shall only use their names or facts to sustain the ground we have assumed. We hope no more persons will write us anonymously; give us your names; "tell the truth, and shame the devil," and let consequences take care of themselves. We have a few more "rods in pickle."

For the New England Farmer.

FARM LIFE IN WINTER.

At this season of the year the farmer enjoys, comparatively, a period of rest. His crops were gathered and housed in the mellow autumnal days; and now, when cold winter comes and touches with an icy wand, brooks, rivers and lakes, covering them with a crystal mantle, he can glance with a contented mind at his well-filled barns and granaries, feeling thankful that his lot has been cast in "pleasant places." His eyes will be refreshed with the sight of generous heaps of golden maize, looking more truly valuable than the metal whose color it bears; while barrels of darker, rich looking rye, boxes of tri-cornered buckwheat, and bins of lighter oats, all tell tales of patient toil, richly blessed with an abundant harvest. Full stores of luscious fruit stand invitingly in the cellar, tempting the appetite by its mellow hues; piles of vegetables, with their many colored skins, are here, destined at some future time to grace the table; and away up in the garret are heaps of brown nuts, which serve for evening feasts, at least for the younger members of the household.

There are, however, many duties for the faithful farmer to perform even in the winter months. To do "the chores" requires much time and patience. Stock, in order to be pleasurable as well as profitable, must be carefully tended. Their sleek, contented looks, if nothing more, will well repay a little extra labor. Then there is much planning to do—deciding what crops to raise, and how large proportions of each—determining what fertilizers, if any, to purchase—reviewing our last year's labors, in order to find what modes of culture, all things considered, will best reward us. Now is the time to repair farm tools, being careful to buy new ones if needed. The best seeds should also be selected for sowing and planting, and placed where they can readily be found. The "wood-yard" should now be filled with an abundant supply of fuel, the cutting and splitting of which will afford labor for many an hour. There are a thousand other things that can now be done, to facilitate the more pressing labors of the spring; but the *duties* of a farmer have been often dwelt upon—oftener, perchance, than the *pleasures*. Certainly no farmer lacks for *employment* at any season of the year; neither need he lack for *enjoyment*.

Farm life in winter has many pleasures—pleasures of a different cast from those of other seasons, but not less satisfying in their nature. The long winter evenings are a fruitful source of enjoyment, for they afford much time for the improvement of the *mind*. "ONWARD AND UPWARD" should be the farmer's motto, as well as that of other callings. If he adopts it he will surely have joys of a nature worth possessing. After the duties of the day are all performed, the farmer can seat himself before a comfortable fire, and devote his time to reading the history of other nations, travels in foreign countries, together with the news of the times. His mind, unburdened from all the cares of the day, can follow with a vivid, life-like interest, the pen of the traveller and historian, reveling among the scenes of other lands and days long past.

Friendly calls among our neighbors, for the purpose of interchanging opinions, and strengthening the social ties that bind us to our fellowmen, can now be made. Gossip does not of necessity form a part of such visits. A discussion of the events now transpiring in the world would be profitable; for farmers should aim to keep "posted up" on all matters of general interest, so as not to be "behind the times," in any valuable information.

Lectures and other literary treats are not so frequent in the country as in the city; but their very scarcity should tend to make them more highly valued by the farmer. The great book of nature is always open to his eyes, and he may read from its ever-changing pages, truths more sublime, more comforting to the soul, than learned disquisitions from lips of eloquence. Some leaves are filled with singing birds, and bursting buds, and babbling brooks, and balmy breezes; others with waving grain, and full-blown flowers, and summer fragrance; still others, with autumn's russet hues, and ripening fruits, and fading flowers, and falling leaves; and then come wintry winds, and sifting snows, and furious gales; all teaching us some useful lesson if we read them rightly.

Winter is an excellent time for earnest *thought*. The farmer can now lay up a store of information, which will make him feel that he is "something worth." And then when he goes from home to associate with different classes, he will feel that he has a firm foundation on which to rely. And when old age comes on, and swift-winged time blanches his hair, and causes his limbs to grow infirm, he can look back without regret on an upright life, and feel truly thankful that he has been blessed with so much abundance.

Much more might be said of farm pleasures in winter, as well as in other seasons, for they are numerous; but each farmer can best add to them from his own experience. S. J. WHITON.

Westford, Conn., Feb. 19, 1858.

THE PRODUCTIONS OF A SMALL FARM ON THE END OF CAPE COD.

It happened the other day, Mr. Editor, that I met with a gentleman from the adjoining town of Truro, who is engaged in farming, and, entering into conversation with him upon the subject of his avocation, I obtained from him the following items, comprising the products of his farm for the past season. Believing they might be of some interest to your reader, I noted them for the *Banner*. Here they are:

100	bushels	corn, worth	$100,00
150	"	beets, sold for 60 cents per bushel	90,00
80	"	potatoes, sold at 87½ cts. per bushel	70,00
50	"	turnips, sold at 60 cts. per bushel	30,00
10	"	beans, worth $2,25 per bushel	22 50
20	"	rye, worth $1,40 per bushel	28,00
200	"	carrots, worth 25 cts. per bushel	50,00
Squashes and pumpkins			20,00
Milk sold			125,00
1000 cabbages, sold at 6 cts. each			60,00
Eggs and fowls			75,00
Pigs			50,00
Amounting in the aggregate to			$720,50

The owner of this farm, Mr. Thomas F. Small, together with his son, a boy of some twelve or thirteen years of age, performed the entire labors of tillage, with the exception of the sum of one dollar and twenty-five cents, paid during the

season for extra help. The amount of land cultivated did not, I believe, exclusive of the part occupied by rye, exceed seven acres. This crop is, though a good one, not considered by him an uncommon one, nor was it produced by a system of forcing, or of excessive manuring, the present season, for the purpose of showing what could be done. It has, however, been constantly improving under the persevering industry and judicious cultivation of Mr. Small.

The above instance is not a solitary one in this quarter. Mr. Small's neighbor, Mr. Holden, has one adjoining, as also Mr. Samuel Knowles, and others in the vicinity, nearly or quite equal in productiveness, and enjoying the same facilities for a market there are in Provincetown.

We not unfrequently, as you know, Mr. Editor, see people, strangers here, smile at the bare mention of a farm on Cape Cod; but I submit, with these facts before us, whether the farms in Massachusetts, generally, or even in sections where farming is the chief occupation, will average in productiveness or profit a sum greater than that produced by this Cape Cod farm, situated here within a few miles of the very "jumping off place."

Add to this, the fact, that there are large tracts of waste, unimproved land—old fields, in the immediate vicinity of the above farm, that might, under good cultivation, in a short time be equally productive, and we perceive that farming may, even here, become an interest not to be despised. —*Provincetown Banner.*

For the New England Farmer.

LEGITIMATE COOKERY.

MR. EDITOR:—Having presented your readers, in my last article, a negative view on cookery—a series of *thou shalt nots*,—I am next to come to *affirmations—thou shalts*. In other words, I am to say what is *legitimate* cookery.

Indulge me, however, in two brief preliminaries. 1. The vastness of the subject, in itself and by its relations, is embarrassing and discouraging, and leads me to shrink from it, at first thought, and to refer my readers to my "Laws of Health." But as many have not seen it, I will endeavor to do something. 2. There will be a difficulty continually presenting itself, at nearly every step, which I wish to meet at the outset. Many will say, "O, I could not relish food prepared in this way; I have never been used to it." Now, I reply to this, by saying, once for all: "Remember Mr. Addison's rule,—*Find out what is best for you and adopt it, and custom or habit will soon render it agreeable.*"

The softening of the farinaceous grain—wheat, corn, rye, &c.—whether by mere soaking, or by boiling or steaming, is lawful and proper cookery. It is true, that in a perfect state, mankind might use them, as they do the fruits, without cooking; but our teeth, in most instances, are *fallen* ones.

Parching, or what is still better, *popping* our grains, especially corn and buckwheat, is legitimate.

Grinding grains, very finely—after being made clean—and by means of simple, pure, soft water, bringing them back to nearly the consistency of the original kernels, but in larger masses, as wafers, cakes, or loaves, is also legitimate cookery.

Under this head we may have cakes or loaves, but *thin* cakes are best, whether of wheat, oats, corn, rye, barley or buckwheat. Here are six kinds of grain, in the order of their value as bread. To which we may add, without violating what I think was the intention of Dr. Dunglison's rule, mixtures of these six articles, in various proportions, such as wheat and corn meal, rye and corn meal, wheat and oat meal, oat and corn meal, &c. Hence we may have, with no loss but that of a little time, as many as fifteen or twenty kinds of mixed bread, in addition to the above. The reader will, of course, understand that no additions, except in some instances a little water, are to be made to the meal; and nothing is to be bolted or sifted out, except the hulls or skins of the oats and buckwheat.

The preparation of the potato, the common and the sweet, by baking or boiling; the baking or boiling of turnips, beets, parsnips, chestnuts, pumpkins, squashes, &c., is legitimate cookery. So, also, is the thorough preparation by simple boiling, of rice, peas, beans, &c. In all this, however, there are no additions to be made; such as milk, salt, lard, butter, &c., for this would be a departure from true simplicity.

Nearly all these preparations, amounting to some forty or more, may be regarded as various forms of the *bread stuffs*—the staff of life.

Some of the fruits may be cooked, especially by baking. Such as the apple, pear and quince. Many varieties of the latter two are greatly improved by baking. The fruit juices are the milk of adult life. Fruits may be cooked in a simple way, or be eaten without cooking; and the juices may be expressed as into Pharaoh's cup, or eaten in the pulp. The last is doubtless to be preferred, for mastication's sake.

Meats, too, in order to be legitimately prepared, should be taken as soon as possible after life is extinct, and simply broiled, baked, or boiled, without additions.

Milk and eggs, if used, should be either taken, uncooked, or cooked legitimately. Milk is best fresh from the cow, and uncooked. If cooked at all, it should be simmered at a heat not exceeding 165° of Farenheit. So should the egg; its temperature, in cooking, should never exceed 165°. The reason is that the white or albuminous part coagulates at 165°, and is of no use in the body in that state; being only soluble by the mineral acids.

I do not say, Mr. Editor, that every departure from the strict letter of the law in regard to cookery, is equally a departure from what I have called legitimate cookery; for there are all degrees of errors, as in other things. Thus, to raise bread, though wrong, yet if done neatly, is but *slight* wrong. Again, to salt it is wrong, but the wrong is slight, not so great as when you both raise it and salt it. And even then the evil is not so great as when in addition to these departures you add milk and molasses and saleratus, and perhaps lard and alum.

But perhaps I have said enough, on a subject which, to many, will seem so uncongenial. I will, at least, close for the present. W. A. A.

Auburndale, May 20, 1858.

A HEREFORD HEIFER OWNED BY THE STATE, AND KEPT AT THE STATE FARM, WESTBORO', MASS.

CORA.

CORA is a fine looking animal, now three years old, and upon looking at her reminds one more of tender and juicy steaks than of brimming pails, pots of cream, and yellow butter. The Herefords have not yet gained a reputation as profitable milkers, and from their tendency to take on fat, and want of those points which are considered indispensable in good milch cows, it is improbable that they will ever be favorites as milkers.

Below, we give part of a report of the Judges on Hereford stock at the Massachusetts State Fair, held at Boston last fall.

The Herefords belong to the class of middle horns, according to the arrangement of varieties of the ox adopted by zoologists. Like their congeners, the Devons, the West Highlanders, and the cattle of Wales, they are considered indigenous to Britain—that is, they were found in certain districts of that kingdom at the earliest period to which history or tradition reaches. The breed appears to have undergone some changes within the last century, which changes are chiefly the result of systematic selection and breeding in reference to particular purposes, and not the admixture of other blood.

In 1824, Admiral Coffin, of the Royal Navy, presented to the Massachusetts Society for Promoting Agriculture, a Hereford bull and heifer. The cow never bred. The bull was kept for some time by the late Hon. Isaac C. Bates, of Northampton, and died in that vicinity at the age of nineteen or twenty years, leaving a progeny highly esteemed for general usefulness.

The predominant characteristic of the Herefords, is a tendency to fatten. In a paper by E. F. Wells, published in the London *Farmers' Magazine* for February, 1848, the following sensible remarks are made in regard to the properties of the Herefords:—"It is allowed on all hands, I believe, that the properties in which Herefords stand pre-eminent among the middle-sized breeds, are in the production of oxen and their superiority of flesh. On these points, there is little chance of their being excelled. It should, however, be borne in mind, that the best oxen are not produced from the largest cows, nor is a superior quality of flesh, such as is considered very soft to the touch, with thin skin. It is the union of these two qualities which often characterizes the short-horns; but the Hereford breeders should endeavor to maintain a higher standard of excellence—that for which the best of the breed have always been esteemed—a moderately thick, mellow hide, with a well apportioned combination of softness with elasticity. A sufficiency of hair is also desirable, and if accompanied with a disposition to curl moderately, it is more in esteem; but that which has a harsh and wiry feel is objectionable." It is for beef, chiefly, that they, as well as the "improved short-horns," and the Devons, are bred in England. They are more hardy than the short-horns, and their beef is of better quality, commanding a price in the English markets equal to any, except the Highland Scotch. As oxen, they are active, with weight and strength equal to the performance of any labor usually required. The breed ranks next to the short-horn in size. As to dairy qualities, they are as good as any cattle in which the fattening tendency is as highly developed. They give rich milk, and if it were desirable, the milking property might be developed to a greater degree, but as it would be at the sacrifice, more or less, of the fattening propensity, the breed would not probably be, on the whole, improved by this course. There is a place for the Herefords, as the breed is at present constituted, in this country, and so far as they have been fairly tried, they have given good satisfaction. Wherever beef and labor are the leading object for which cattle are kept in New England, and the northern section of the country generally, the Herefords are worthy of a thorough trial, inasmuch as the experiments heretofore made with them, indicate their adaptedness to this purpose.

FOWLS BREEDING IN AND IN.

It has been said, if you continue to raise from the same species, for a number of years together, your stock will degenerate, and will become useless.

I will now give my experience; and we will see, if by being particular in selecting the ancestors, the result is not the reverse of the above. My first experiment was at a hen-house, a mile from where I live; my stock of fowls then were the Black Mexican. I turned out six hens and a cock, from my first year's raising, and to all appearance they were as fine, trim made fowls as any I ever saw. The second year I found my chickens losing size; then I selected a tall spare-made cock, as being the finest chicken in the lot, and thought he would give them height; whilst the hens, which were low in stature, would give them size enough; but to my mortification the chickens became tall and slender, and in four years were not to be compared to the original stock. Now, at the same time I was trying an experiment where I live, in one of my lots, on the Earl of Derby fowls, and to my surprise they improved in form and some in weight.

I selected four pullets of good size and large bone; the cock I selected from chickens hatched in March; he was broad across the breast, back short and round, wings long and strong, feet small, legs large and straight, and in symmetry unsurpassed; then I gave him the run, and raised from him two years, though I turned out a cock the first year; and when I saw the chickens, the most of them wanting height, I selected the hens, not the cock, with long legs; and in that way I can keep a stock pure for any length of time without degenerating. My stock of Derbys are finer to-day than they were when I got them.

Late chickens should never be turned out to raise from, unless you intend to cross them, for that will, of itself, make your chickens small. March chickens are preferred by me to any other month.

You should never keep many chickens crowded in one hen-house, especially during August and September, for it will be sure to give them the distemper. The distemper is known by the chickens discharging a watery mucus from the nostrils, and the head looks pale, and the chicken has no appetite.—*Southern Planter.*

For the New England Farmer.

BARBARITY ON HORSES—PRICKING, DOCKING, &c.

DEAR SIR:—In your paper of May 15th, I read an article in which the writer denounces the popular barbarisms, *docking* and *nicking*, and asks, "Why this passion for chopping off tails?"

I endorse the sentiments of "P.," and agree with him in the opinion that "*decency* forbids such mutilation." The passion for nicking and docking probably originated with some vain and officious individual, who had an impression that he could make some improvements on nature's handiwork; in process of time the barbarous folly became quite fashionable, and now it is no uncommon thing to see, in some of our city stables, as many as five, sometimes a dozen, horses with their tails in the pullies, for the purpose of giving them the latest style of curve or elevation, to suit the morbid fancy of the horse-dealer. If purchasers did but know, how very painful such operations are to the horse, I feel assured they would set their faces against them at once. In the course of my practice I have always refused to perform such cruel and unnecessary operations, and if my veterinary brethren would adopt a similar course, and at the same time try to convince the community that such operations are entirely unnecessary, the barbarism would soon cease.

These unnecessary operations were once as popular in England, as they are here at the present period, but the English people have at last realized the enormity of torturing uncomplaining animals in this barbarous way, and I feel assured that American horsemen have no desire to be considered less humane than those of the mother country, hence we may reasonably expect that the time is not far distant, when such cruel operations will cease.

A very philanthropic man, and eminent surgeon, (Mr. Blain,) in his work on the horse, thus alludes to the popular follies of nicking and docking:—"We are happy to state that this filthy and unnecessary operation is now discarded. It never consisted of more than the cutting off a portion of the tail with brute force, and the cruel application afterwards of a hot iron to the arteries of the tail.

Nicking.—We should be grateful that this barbarous and dangerous process is no longer numbered among the necessary operations. It is so beset with accidents which no skill or prudence can prevent, that no one ought to mutilate a horse by nicking."

Boston, May 19, 1858. G. H. DADD, V. S.

EAGLE MOWER AND REAPER.

The season of Haymaking will soon be upon the farmer. Is he prepared for it? We have just been looking at the new "Eagle Mower and Reaper," and thought many of our friends who cut hay for ten head of cattle and upward, ought to look at it too. It is certainly a model of good work,—is light, yet strong, executes rapidly, but with little draft, travels on its own wheels from field to field,—has no gearing to jar its motions, and can be stopt and started in the grass without any backing. This is the machine that took the *one thousand* dollar premium offered by the Massachusetts Society in 1856. It was tried with other machines a week or two since in a field of "old fog," or old grass, and went through it, with great facility and ease, while other machines tried with it all clogged more or less,—so a friend who witnessed the operation informed us. We have not yet seen it in motion, and only desire now to call the attention of our friends to it before the hay season comes on.

FRUIT—ITS BENEFITS.

After some months of reflection, I am still in favor of "*strawberries and cream.*" I respect Dr. FRANKLIN—I suppose he was a good man—not pious, but patriotic. Patriotism is only a segment of piety, but it is about all the good there is in our "*great men.*" FRANKLIN had something to do with *lightning*. I never exactly found out what, but his relationship in that quarter has evidently made women and children, and even men, contemplate him with awe. A sort of philosophical wizard, he is the right kind of man to "head off" poor scribblers. Accordingly a *Rural* correspondent arrays the doctor against me. He quotes him, not exactly against my friends the Bartletts and Antwerps, nor yet against eating in general, but against talking of our food, and smacking our lips with too evident relish. Now, I confess to a hearty dislike of sensualism—in fact I was pleased with what the doctor said. I believe in raising our thoughts above the things of earth, but I submit it to the philosophers of this generation, whether our thoughts and associations would not savor more of Heaven while partaking of Newton Pippins, Seckels and Hovey's Seedlings, than when munching crab-apples and Rohan potatoes.

I believe no man can deliberately set about getting up a good assortment of fruit, without being a better man. I will guarantee that an inventory of *scoundrels* will include but few zealous fruit-growers. A man seldom plants a tree without thinking of his friends, and the good cheer he can give them. He means to send a basket of pears to the minister, and give the widow lady over the way all the peaches she can use; he aint the kind of man that is unwilling to move till he can get a warranty that all the benefit shall accrue to himself. He goes for posterity and patriotism.

How much the general use of fruit, as every-day diet, will do to bring about the millennium, I cannot exactly tell; but I do know that there is no use in our trying to be wiser than GOD. Break one link in the divine economy, and the universe is enfeebled in all its parts; the divine arrangement evidently is that fruit shall form a large part of our diet. "Of every tree of the garden thou mayest freely eat," &c., implies a variety of fruit and the use of it. The exquisite flavor of our best varieties is nothing more nor less than their adaptation to our natures and necessities. Fruit is suited to our palate, as the shell is suited to the oyster, or the air to the lungs. Men may like *tobacco*, but it is only in their fallen state, in the very lowest stages of manhood, when

they are about fit to be transposed into monkeys —the *infant* never likes it—the unsophisticated and unperverted hate it. Not so with fruit. Man in his normal state likes it; his relish is not *acquired*—GOD gave it to him. Physicians have given repeated and emphatic testimony as well to the nutritive qualities of fruit as to its eminently healthful character. Men who deemed pills essential to life have found in multitudes of cases a pleasant substitute in fruit. Its free use would be preventive of indigestion, headache, dyspepsia, (my readers will find a complete list of the complaints in the patent advertisements,) and I take it for granted that when these diseases are cured, melancholy and suicides will cease; quarrels and wars be done away with; and peace on earth and good will to men prevail.—*Rural New-Yorker.*

For the New England Farmer.

AGRICULTURE IN COMMON SCHOOLS.

A common school education is deemed of great importance, and the branches here taught should be of practical utility. Among these no one will rank higher than a knowledge of the elementary principles of agriculture. If these are taught in our common schools, impressions will be made on the minds of youth highly salutary to their future usefulness and happiness. They will be likely to engage in agricultural pursuits, and deem the employment of the husbandman the most honorble and useful of all; and when this is the case, the earth will bud and blossom as the rose, and under the smile of a merciful Providence peace and plenty will be the common lot of man.

Considerable efforts are being made at the present day to elevate the standard of common school education. But it is unpopular to say much on the importance of instructing youth in the elementary principles of agriculture. Books on almost all other branches are introduced into our schools and highly extolled. But an elementary book on the subject of agriculture is hardly named, or if named, is said to be out of place; and a distaste is impressed on the minds of youth against rural and agricultural pursuits. This proves highly detrimental to their future usefulness and happiness. How many young men and young women scorn the idea of living a farmer's life? With them, some profession or some splendid residence in a city is preferred to a rural dwelling-place in the country, where the mental and physical powers may be cultivated, and where health and happiness may be enjoyed so far as it is for the good of man in this world. Will not the true friends of a good practical common school education discuss this subject through the medium of the press, and give all classes of people to understand the importance of introducing elementary books of agriculture into our common schools? JOHN WILCOX.

Newport, N. H., 1858.

PEPPER.—Pepper is an almost universal condiment. Black pepper irritates and inflames the coatings of the stomach, red pepper does not; it excites but does not irritate, consequently it should be used instead of black pepper. It was known to the Romans, and has been in use in the East Indies from time immemorial, as it corrects that flatulence which attends the large use of vegetable food. Persons in health do not need any pepper in their food. But to those of weak and languid stomach, it is manifold more healthful to use cayenne pepper at meals than any form of wine, brandy or beer that can be named, because it stimulates without the reaction of sleepiness or debility.—*Hall's Journal of Health.*

For the New England Farmer.

TOWN AND COUNTRY.

MR. EDITOR:—I believe it is Cowper who says, "God made the country, and man made the town." This does not appear to me to be strictly true; or, if it be true, it is to be understood with certain limitations; for, in both places, we are alike surrounded by the works of God and man. In the country, we see more of nature in its simplicity, adaptation and loveliness, less perverted by the artifices of man; whereas, in the city, the eye is limited to some narrow spot by streets and walls of massive brick and stone. Men and their arts appear in greater number and force in cities; but the hand of rural art and labor renders the country the most picturesque and charming to the eye of the beholder. In both situations, men are toiling for gain and subsistence, but with this difference; in the city, they depend upon shrewd bargains or upon their mechanical skill; but, in the country, upon the direct returns of their labor in the products of the soil. As the inhabitants of the country deal more directly with their Creator, there is more constancy and security in their gains, though they seldom accumulate great fortunes.

It is often asked whether life in the country or in the city is, on the whole, most favorable to the formation of the Christian character; the pursuit of true wisdom, virtue and holiness? It is not my purpose to answer this question directly. It is sufficient to say, that in both situations, there is room for moral and intellectual improvement, where there is a disposition. He who lives among the crowds of the city, frequently ascribes to their example his own vices; and he who lives in the retirement of the country, often refers his rudeness to want of better opportunities. In both situations, we are required to do an honest man's earnest work, and to secure our own happiness by a virtuous course of conduct.

It appears to me, that, whether we live in the country or in the city, we should remember we are progressive beings, and endeavor to make some progress, not only in our characters, but in our business pursuits. There are some people, with whom a whole century produces no visible change for the better. They make no improvements in their style of doing business, or in any thing else. They seem to be the very type of conservatism—immovable in the midst of incessant change. If in the country, they remain on the old homestead, and retain all their acres, from generation to generation. To sell one of their hundred acres, would be a downright desecration, though they do not properly cultivate a hundredth part. If they live in the city, their minds seem to have been stereotyped with all the old notions which prevailed before the flood.

JOHN GOLDSBURY.

For the New England Farmer.

PIPES FOR CONDUCTING WATER.

MR. EDITOR:—I cheerfully answer the inquiry of Mr. CONSTANTINE, in your paper of the 15th inst., in regard to the "best kind of pipe for bringing water," by stating my own experience.

Nearly forty years ago, in connection with a neighbor, I constructed an aqueduct of drawn lead pipe of three-fourth inch calibre, to supply ourselves with spring water. The fountain was on my own land, and not over forty rods distant from our houses. We used it at our houses and barns. This was the first drawn lead aqueduct used in this town or vicinity, so far as I know; but a sheet lead pipe soldered together, was constructed by a mechanic a year or two previous, but it was of short duration. Our aqueduct lasted some fifteen years, when it failed by corrosion, and was replaced by new pipe. The last pipe is, so far as I know, still in use, and I attribute its preservation from corrosion to the precaution taken to cover it, say a foot deep, with clay.

My next was about thirty years ago, in constructing a pipe of two inch calibre, on a new locality to supply some twenty or twenty-five customers. This pipe was made very heavy, as it was particularly desirable, for special reasons, that it should not often need repairs. I was much surprised, however, to find in the course of three or four years, that this new lead aqueduct began to need repairs, and after being at considerable trouble with it, for a time, I was led to make a thorough examination, when I found nearly every rod of my pipe more or less corroded, and I was obliged to substitute some other material. I decided upon wood, and this last is in good order now, after having been in the ground for twenty years. I would state that the ground through which this pipe ran, is, or was, a wet meadow—but has been materially modified by draining and filling—and I would remark that my first aqueduct ran for a considerable distance through similar ground, and in *that part* it was that the corrosion took place, while that part which ran through a sandy soil was not affected.

My third enterprise in the aqueduct line, was on a more extended scale, and in giving an account of my experience, I may possibly be more minute than would be desirable. But it being probably the most extended individual enterprise of the kind in New England, and one in which I took especial pains to introduce all the conveniences that I could find far and near; and it being an enterprise which has been crowned with complete success as to its indispensable utility to a large population, its permanency, and its value as an investment, an account of it may perhaps be worth the space it will occupy.

The town of Springfield, where I have lived for near half a century, had always been poorly supplied with water. There were a few poorly constructed private aqueducts, but the population depended mainly upon wells, which afforded indifferent water for drinking, and almost impracticable for washing. I sought what I deemed a good source for water, gushing from the bowels of the sandy plain above us, and of the purest and softest quality, and I secured by purchase the spring and the right of way to a public road at once, and at a very moderate charge. I then invited attention of several prominent citizens to the subject, who I knew had quite as much personal interest in the introduction into our village of pure water, as myself, and a good deal more money to spare to invest in it, but no one seemed to have confidence in its success, and each declined joining in the undertaking. Many promised to be customers, if the water was brought to them, and the Western Railroad station being scantily supplied, Hon. Edmund Dwight, then President of the corporation, offered to make a contract for ten years, at a very moderate charge. After reflecting on the question of engaging single-handed in such an enterprise, I determined to go on; my reasoning was, that if it proved useful, and not extravagantly expensive, the citizens would not allow me to suffer. This was in the spring of 1843.

Being in the timber business, and having on hand a considerable amount of timber suitable for pipes, and conveniences for manufacturing, I procured a set of tools for manufacturing, of different calibre, and employed an experienced man to bore and fit them. While the work was going on, I visited various places where aqueducts were established, to acquire information as to various matters of convenience and expediency. Among other places, I visited Syracuse, in the State of New York, where I learned that a company was introducing water into that city, much on the plan that I was pursuing. I learned, also, that the State of New York had used wooden pipes to conduct their salt water from their saline wells to the various points where it was used for the manufacture of salt. These works had been in use many years, and I presumed that long experience had suggested improvements in the manufacture and laying of the pipes, not generally known. Nor was I mistaken; and my journey there was important in its results. I found, at Syracuse, augers for boring, and tools for fitting the logs together, so perfect, that I bought a set at considerable expense, and laid my own aside. I also learned the mode of charring the insides of the pipes, a most important operation, as it has the effect to prevent the water passing through, from being affected with the taste of the timber. This operation is exceedingly simple, like many other valuable improvements and inventions.

I also visited your good city of Boston. You will see by the date that it was some years before your magnificent Cochituate was commenced, but having been a Boston boy myself, forty years before, I remembered the Jamaica Pond aqueduct, and that it was constructed with logs. At Boston I found several conveniences, not in use elsewhere. But the great idea—and worth more than all the rest—that I received there, was to *lay my logs deep*. For this idea I was indebted to Thomas A. Dexter, Esq., who was principal director of the old Boston Water Works.

He remarked to me, that wood was a very good material for conducting water, and if laid deep enough, it would out-last iron. He repeated with emphasis, *deep enough*, to impress the importance of it on my mind, and I have taken pleasure in calling on him at his office repeatedly, to speak of my success, and to thank him for his most valuable suggestion. I have lived to become convinced that Mr. Dexter's opinion,

that timber thus laid will out-last iron, may be safely regarded. It will occur to any person of practical experience, that a post set say three feet deep, will rot off near the surface, while the lower part is comparatively sound. Mr. Dexter has samples of my aqueduct which have laid from eight to thirteen or fourteen years, and I doubt not he will show them to whoever may feel interested to see them, and I will send you samples taken off the logs quite recently that will speak for themselves.

I followed the injunctions of Mr. Dexter strictly, and will now say that in eighteen miles length of wooden pipe, which is now laid and used, I have reason to believe that at this moment, nine-tenths of it is as sound as the day it was laid, after having been used from ten to fourteen years. I am in the habit of procuring chips from the logs whenever there is occasion to dig down to them for inserting a new leading pipe or for repairs, and keep them as evidences of the condition of the logs. I have samples taken off within three days, from logs laid in the fall of 1843, which are as sound as when first bored and laid. My depth in sandy, porous ground is six feet, and in clayey ground, four feet, but in swampy or meadow ground, scarcely three feet. The idea is to put the timber below the changes of temperature. There is another advantage in laying deep, and not a slight one. It keeps the water about as cool as when it is in the spring, and obviates the objection to aqueduct water, that it is insipid for drink.

I will now give an example in proof of the advantages of deep laying. I furnished pipes for a company in a neighboring town, of about two miles in length, and they chose to dig the ditch, and notwithstanding my remonstrances, they insisted on laying them between three and four feet deep in sandy ground. The consequence was, that the principal part of the line decayed within seven years, and it is now totally useless. The logs were the same quality as my own, which, laid at the same time, are sound. This, I think, settles the question of advantage of *depth* beyond dispute.

I soon found that my enterprise was popular, especially with the women, as it furnished to them in their houses, at a moderate charge, an abundant supply of pure spring water, and more was called for than my first spring would afford. I, therefore, added by subsequent purchases, five other springs, which altogether afford an abundant supply of water for families, for steam engines, and for the city reservoirs in case of fires. These last are supplied in such abundance, that there has been no cistern in which the water has been exhausted, when the fixtures for letting on the water are in order, and immense amounts of property have been preserved from destruction, by means of this aqueduct. During the first five years, and while I was sole owner, I had laid more than eleven miles of wooden main pipe, of a calibre from seven inches down to one and one-half inches, and service pipes of lead, measuring perhaps as much more; these last invariably at the expense of the water takers, and I supplied customers as follows:

Families	479	Livery Stables	8
Stores and Shops	84	Churches	1
Stables and Barns	37	Steam Engines	5
Hotels	6	Barbers' Shops and Bathing Rooms	5
Printing Offices	2	Foundries	3
Machine Shops	3	Offices	6
Banks	3	Fire Reservoirs	4
Boarding-Houses	17		668
Railroad Depots and Engine Houses	3	And also for watering streets.	
Bakers	2		

I was verbally threatened by various individuals, with prosecutions, at various stages of the progress of my work. The great mass of the people, however, having become satisfied of the indispensable importance of the aqueduct, lent their countenance, and cheered me on.

I had, however, invested more than was prudent in a person of my moderate means, and in order that the full benefits might be enjoyed by all, I proposed to put the property into a joint stock corporation, and gentlemen came forward and subscribed for shares, and an act was granted by the legislature of 1848. All sorts of difficulties were thrown in my way, in procuring a legislative charter, but as the usual powers only which had been accorded to other parties were asked, an act finally passed, authorizing a capital of $25,000, with liberty to increase as needed, to $50,000. Extensions have been since made from time to time, until the length of main pipe exceeds 18 miles, and the capital has been increased to $35,600, and the number of customers has steadily increased, and is now increasing. I will now say, without the fear of contradiction, that this work, commenced and carried forward to successful results, is of as much importance to the city of Springfield, and as indispensable at this moment to them, as the Croton is to New York, or the Cochituate to Boston, and as an investment, is as productive as any stock in this place. The net earnings from the first year of its operation to the present time, have averaged ten per cent., and is paid in semi-annual dividends of five per cent., and as the expenses are lessening, and the rents increasing, the stockholders may look forward to a twelve per cent. dividend in a short time.

I will not extend this account, by stating the difficulties which were thrown in the way of procuring a Legislative act of incorporation. It is sufficient to say, that envy, and personal and political grudges moved it, and I doubt not the most active and virulent have long since repented of their course. At any rate, several of the most prominent depend on the water for themselves and their tenants, and some of them are now stockholders in the property.

I took especial care throughout the construction of this work, to avoid encroachments on individual rights, and the rights of the public. First, by the purchase of the springs and the right of way to a public street; and second, by procuring the consent of the town authorities, for laying my pipes in the streets, which was duly recorded, and when from any cause an individual was injured by my operations, I made satisfaction without litigation. There were individuals who claimed to be lawyers, who disputed the power of the Selectmen or any other authority, even the Legislature, to grant the right to lay pipes in the streets without the consent of all abuttors. I have before me a notice in the handwriting of a prominent individual, which I will give as a sample, which was regularly served by a constable.

"To CHARLES STEARNS, Esq.:—Sir—This is to notify you, that I intend to dispute your right to lay an aqueduct in Howard Street or Water Street, in the town of Springfield, or to continue the one already laid in Howard Street, in front or on either side of the homestead I now own and occupy, on the corner of said streets, also, in Bridge Street, in said town, in front of the Edson house, so called."

A true copy, attest, (Signed,) ——— ———.
WM. HATFIELD, Constable of Springfield.

I have deviated somewhat from the simple question of Mr. Constantine, as to "the best kind of pipe for bringing water," hoping that my experience may be beneficial to others, if not to himself. I will remark, however, that as to the poisonous effects of lead pipe, I used constantly, for twenty years at least, water drawn through a lead pipe, and neither my family nor myself experienced any bad effects, nor have I ever known a well authenticated instance of the injurious effects of such pipe, but I have heard of such instances, and it is probable that they have existed. *All* my leading pipe, conducting the water from the mains to houses and other places where the water is used, are of lead. I have lately received a printed statement of an aqueduct constructed in Pittsfield, Berkshire Co., in this State, within a few years. The main pipe of this aqueduct is constructed of Ball's patent indistructible cement pipe, an article with which I am not acquainted. But I notice, that the expense of this aqueduct is fully treble that of timber, and if there were never any expenses for repairs upon it, the interest of the money on the difference in the cost would keep the Springfield wood aqueduct in repair for all time to come, and divide a large surplus for the owners.

The timber aqueduct is manufactured here by Mr. Ezekiel Keith, who will answer any questions as to price, &c. CHARLES STEARNS.

Springfield, Mass., May, 1858.

For the New England Farmer.

DEPTH OF PLOWING.

MR. EDITOR:—I have seen numerous speculations of late, as to the proper depth of plowing to be had in our fields, and know of no question of more practical utility. Some say four, others eight and others twelve inches, according to the condition of the soil. Much will depend, undoubtedly upon how it has heretofore been turned, it being thought judicious to deepen one or two inches, at each succeeding breaking up—until at least a depth of twelve inches of loosened soil shall be attained. We know that most plants, even those that grow chiefly on the surface, (the onion, for instance,) extend their fibres to the depth of a foot or more, therefore it is reasonable to suppose that they will be benefitted by the soil being stirred to this depth.

Our best cultivators, when they first turn up their grass lands use a strong team, (two pairs of oxen, at least,) and let their plow sink as far as it will—say from six to twelve inches. And they generally realize the best products, where the culture is deepest, provided there has been applied a sufficiency of manure. So long and so hard have our fields been pressed, that no man may expect a crop, without a due application of the needful. It is said that corn will do best, where the culture is shallow; and that it is more than useless, to stir the soil more than six inches deep for this crop. Such has not been my observation. I know of farms, where from forty to eighty bushels of corn are now grown to the acre, on which thirty years ago, thirty-five bushels would have been considered a good crop; and this difference is attributed to the deepening of the culture.

Notwithstanding the doubts of some and the slurs of others, I am of the opinion that benefit will accrue from deepening the culture of the soil, and that double the crop now attained, can be had, by a judicious application of this process.

J. W. PROCTOR.

South Danvers, June 2, 1858.

For the New England Farmer.

THE FARMING ART.

The multitude of separate, independent arts combined in agriculture, horticulture and floriculture, can scarcely be estimated. The culture of each kind of grain and fruit must have been a separate discovery, and given rise to a new art. The Indian corn was originally a wild grass or plant, and in its wild state afforded only a small quantity of seed, spread over immense plains in thin, scattering beds, and collected with difficulty. The art of raising this plant, has become so perfected as to yield a hundred barrels where only one could once have been collected. The grain, too, is more improved in quality than in quantity. Wheat, rye, oats, barley, buckwheat, rice, beans, peas, were all separately discovered to be edible, civilized, and finally produced in the shape we now see them. These were all wild grasses and vines, collected by various observing individuals, submitted to the trial of culture, and perfected by the ingenious hand of the husbandman.

Instead of the fine, full, large grain of wheat we now see, the kernel was small, withered and tasteless. The various wild grains only yielded seeds like other grasses, and afforded but a scanty pittance to the gleaner. Apples, pears, peaches, plums, cherries, currants, quinces, oranges, lemons, and many more fruits, all grew wild in woods, plains and swamps, and were taken from these places, planted in mellow soil, enriched, hoed and nurtured from year to year until they grew to the size and flavor in which they now appear. In size they resembled walnuts, chestnuts, huckleberries, swamp-cheeses and wild cherries. Beets, carrots, parsnips, turnips and cabbages, may all be cited as instances of brilliant discoveries, and their culture as new arts. The grape and the cranberry are probably the least changed and improved of any kinds of fruits, yet what a change is effected even in these by habitual, attentive culture.

The husbandman, unconscious of the multitude of arts combined in his occupation, grows up among them as if all were the product of nature, and the inspiration of the seasons, and not the work of patient attention and careful study. The animals which he uses were as wild as his plants and trees. The horse, the ox, the cow, the sheep, the hog, the geese, turkeys, hens and pigeons were all as profitless and as much beyond his reach as the lion, the tiger, the eagle and the partridge. The domestication of all these; the manufacture of butter and cheese; the manage-

ment of wheel carriages; the slaughter and preservation of animal food; and the measurement of his land by paces and rods comprise an imperfect list of the arts in the profession of the farmer or of general agriculture.

The culture of flowers and shrubs evinces no less of art than the astonishing development of grasses, grains and fruit trees. In value, size and beauty they have increased many fold. The poppy, the rhubarb, the peppermint, the caraway, the rose-bush, the pepper, the mustard, the sage, the lavender, the saffron, the lobelia, the sunflower, the pink, the violet and the honeysuckle, each displays the ingenuity and refinement of the agricultural art. Their old kindred in the wilderness and the plain would seem to have lost all relationship, and to live in comparative worthlessness.

RURAL ART.

April, 1858.

For the New England Farmer.

THE PROMOTION OF AGRICULTURE.

[An Extract from a paper read before a Farmer's Club in ——, Jan. 21.]

* * * * To see the condition of our town is easy; to prescribe a remedy may be more difficult. But however hazardous it may be to emulate him, who, when asked, "Can you play on the flute?" replied, "No, but I can tell you how to make a little village become a great city;" yet every man owes it to the town he lives in, to make the best suggestions that he can to promote the public good.

A few days since, an eminent citizen caused his name to be forever held in grateful remembrance, by a bequest of $15,000 to our town; the income of which is to be appropriated to moral and intellectual purposes. This noble gift has insured the prosperity of the causes to which it was bequeathed. Now, let some other rich man, or some number of rich men, or even the town itself, donate a fund, the income of which shall be appropriated to the promotion of agriculture in this town. One-fourth part of the capital which our citizens have invested in bank stocks *out of town*, viz., $30,000, would give an annual income of $1800, to be divided in premiums among our farmers, every year through all future time. Let this be done, and this town would blossom as a garden. As a mere money-making stroke of policy, I challenge the suggestion of a better. Ten of our greatest land-holders could *to-night* make money by donating such a fund to the town. Real estate would forthwith rise in value to the extent of $200,000. $1800 hard, golden dollars, counted out and distributed among our farmers at an annual cattle show day, would have a marvellous effect; the attractions of the West would pale before their glittering light. In ten years, this town would become as near a city as the business of agriculture would allow. Then would it be, in the words of the poet:

> "A goodly sight to see
> What Heaven hath done for this delicious land,
> What fruits of fragrance blush on every tree,
> What goodly prospects o'er the hills expand."

J. R. E.

☞ *Hall's Hand Power Stump Machine*, recently illustrated in the *Farmer*, is for sale at *Nourse & Co.'s*, 13 Commercial Street, Boston.

PASTURE LANDS.

In the management of pasture lands, it is an excellent plan, where the nature of the ground favors the operation, to free the surface of bushes, stones, stumps, &c., and then plow it carefully once every six or eight years, harrow thoroughly, and sow on the seeds of such grasses as are found to be best adapted to the locality, and the most valuable as a summer food for stock.

Herd's grass (timothy) white and red clover, red and brown top, make an excellent stocking for light pastures. The recuperative power of pasture lands is such as to render the application of manures of less consequence than on other lands; yet it will be found highly beneficial to apply, occasionally, a light dressing of plaster, lime, or what is better still, wood ashes—all of which have a tendency to promote the development of vegetation in the early spring, as well as to sustain it in seasons of severe and protracted drought. These appliances tend also to bring into action the energies of the inert humus contained in the soil, and to render the silicates soluble, and consequently in a proper condition to be taken up by the roots of plants.

From the inert humus, and certain other substances of a mineral character, the soil of our pastures derives the power of recuperation, or self-replenishment, which it is supposed to possess. But it is well enough to remark, that, apart from the phenomena of vegetable growth and decay, in no such power is recognized nature. If we annually remove the produce of a field or pasture, without making any returns in the form of manure, we shall necessarily pretty rapidly impoverish the soil.

In fallowing—that is, in plowing and harrowing land without sowing it—no vegetation is allowed to mature; all that the vegetable powers of the soil produce, is immediately returned to it, and as most plants derive a portion of their food from the atmosphere, the air, by this process, is made to enrich the earth. The soil itself also absorbs from the same source a very considerable amount of fertilizing matters in the shape of gaseous products, and when supplied with materials capable of absorbing and fixing the æriform principles which are perpetually present—and in large quantities, throughout this wide-spread and inexhaustible field of fertility—the accession of fecundating matter will be very large, and secure the most favorable results, both to the soil and the succeeding crops. This is, perhaps, one of the most economical and effectual methods of replenishment it is possible to adopt.

But we must not suffer ourselves to be illuded by the glitter of hypothetical conclusions; we must attribute results to their legitimate causes, and trace each one, so far as it is practicable for

us to do, to its real and proper source. The demand upon the energies of the soil always exceeds the supplies derived from the air, and hence we see that there is no such thing as a recuperative power, or principle, independent of vegetable life.

The spires and blades of the grasses, and the stalks and foliage of other plants, frequently decay and fall upon the ground, their places being supplied by new formations, often emanating from the same, or nearly the same points. The same takes place among the roots. When a fibre perishes, it is resolved into humus, and supplies food for the new organ which nature prepares to occupy its place. This alternation of decay and reproduction, is going on continually throughout the wide range of nature, and its results are obvious at every turn.

The pastures to which we refer, must be, of course, such as are capable of being worked; such as lie near villages, or wherever land is high. The rough, rocky, mountain pastures, where the land is comparatively cheap, cannot be economically plowed. If they are absolutely needed, being worth more for pasture than to allow them to grow up to wood, about all that can be done for them is to keep the bushes down, and sow on them occasionally plaster, lime, or ashes; and the economy of this will depend entirely upon the price at which these articles can be obtained, including the cost of transportation.

MANUFACTURE OF CARPETS.

The New York *Journal of Commerce* thus describes the process of manufacturing Brussels Tapestry and Velvet carpets by the New England Worsted Company:

The process of making these carpets is one of the most interesting in the whole range of manufacturing. The goods are not printed in the piece, but the threads are colored by the printing process before the fabric is woven. The operation is as follows: The yarn in a white state is reeled upon a large drum, so that the threads lie side by side, the circumference of the drum being the length of the figure, or of the yarn necessary to make it, in an elongated state, while enough yarn is placed upon it to make eight threads, each running the whole length of a piece of carpet. A plan for the figure is then drawn, and gaged with mathematical accuracy, showing the exact space of each color to be printed on each separate thread of warp. Holding this plan before her, the girl in charge, by the assistance of a boy, rolls a box of color under the drum, making a line across the drum; if a wider space of the same color is needed this box rolls several times, the drum meantime slowly revolving. The next color is then added, until the whole surface of the yarn upon the drum is striped with these lines. The yarn is then removed, and makes eight threads, only one of which can be used in a single piece of carpet; they are, in fact, eight first threads for as many pieces of carpet. Yarn for the next thread is then wound on the drum, and printed according to its plan, and this is continued until enough is done for the whole width of carpet, the result being enough for eight pieces of carpet just alike. The separate threads numbered are then brought together in proper order side by side, and placed in the loom, the filling, as all our readers know, being of hard twisted uncolored thread which only shows on the back of the carpet. The carpet is then woven, without farther regard to style, the beautiful figures resulting being produced entirely by the previous printing, the mathematical accuracy of which is truly astonishing. The most exquisite shadings, bouquets, and figures of every imaginable design or colorings, may thus be produced with all the accuracy of needlework upon prepared canvas, and at a price which is wonderfully cheap when the brilliancy of effect is considered. The loop on the surface of the Brussels is made by throwing the thread over a polished wire, which is withdrawn as the work progresses; and the velvet surface is made by cutting the loop after weaving.

WEEDER, TROWEL AND DIBBLE, COMBINED

The cotton mills and carpet looms have not had all the benefit of active and ingenious minds, as will be evident to those who stroll through the extensive agricultural warehouses of this city. There *is* "something new under the sun" every day. The exercise of many educated and well disciplined minds is now turned, more than ever, we think, to the interests of the soil. A chaste, instructive and vigorous agricultural literature now charms and adorns the labors of rural life, and is throwing around them influences which will not only keep more of our young men and maidens on the farm, but it is winning back many who have strayed and "tasted a thousand ills unfelt at home."

We have not used the *Weeder, Trowel and Dibble combined*, and cannot, therefore, speak from any practical experiences. It is a device of Mr. Von Unwerth, who says it is "a most valuable combination of three very useful garden tools.

The operation is so simple as hardly to require an explanation. The broad side of the weeder may be used to clear a larger space of weeds, and also to loosen the soil. The narrow oval sides of the weeder are intended to loosen the earth lightly around the young and tender plants without injuring them.

The use of the trowel and dibble in setting out plants, and doing various kinds of garden work is obvious to all.

By combining the three in one the purchaser has an instrument costing less than three separate implements and also much more convenient."

For sale by PARKER, WHITE & GANNETT, Blackstone Street, Boston.

For the New England Farmer.

CULTURE OF THE PEACH.

MR. EDITOR:—As it may not be uninteresting to some of your readers, I have herein set forth an account of my experience in the culture of the peach. In the year 1849, I gathered some peach-stones of the wildest, and I might say, the poorest I could find. I placed them in a box, first a layer of earth, then a layer of peach-stones, until I filled the box; I think there might have been three layers of peach-stones. They were left out of doors until the frost had acted upon them, and about the first of January they were placed in the cellar. Early in the spring they were removed to a warm situation, where the sun could reach them most of the day, and by the time I could prepare my ground, they had mostly started; *some* grown from six to ten inches high. By removing one end of the box they were easily transplanted into rows where they grew to a good size for budding; which was done early in September. Of five or six hundred trees, only one hundred and seventy took well; these were set out in the spring of 1850, and in 1851 I planted more in the same manner, with similar result, until I obtained four hundred and fifty good trees budded with twenty-three varieties: there remained over one thousand inferior trees, on many of which the buds did not take; these were thrown away. The four hundred and fifty trees were set out in rows fourteen feet apart each way. When one year old from the bud, the top was cut in close to the main stock; apple trees were set every twenty-eight feet each way. The ground occupied is less than three acres. I have continued to work the land, planting corn, potatoes, beans, squashes, &c., commencing with three rows between the trees, each way, and as the trees grew, two rows, then one, always making a tree come in a hill, plowing either way.

Of peaches, the result has been, that in 1853 I had a few, I forget how many, sold to the amount of fifty dollars; in 1854, had one hundred and fifty bushels, sold to the amount of two hundred and fifty dollars; in 1855 I did not have one peck; in 1856, had about eighty bushels, sold to the amount of three hundred and fifty dollars; in 1857 had one hundred and thirty-five bushels, sold to the amount of four hundred and fifty-four dollars. The trees are mostly in a healthy condition, in full blossom, with a prospect of a much larger crop than ever before. My situation is sheltered from the bleak winds; there is a large hill on the north-east and also on the north-west, and I think it must be owing to my location that I have had quite a crop of peaches, when there were hardly any in this country, as was the case in 1856. As respects the varieties, there is a marked difference in their hardiness, also the same kinds will not always be as good, owing, I think, mostly to the season. I have thirty rather small-sized trees of the Malta, which in 1856 produced twenty bushels; they sold readily for one hundred dollars, were large, high-colored, and excellent. Last year the trees were suffered to bear too full, consequently the fruit was small and inferior. Most of my fruit has been sold to dealers to sell again. I have many trees of a firm, high-colored peach; excellent for the market; we call them the "Jenks Rareripe,"—it has proved hardy. Last year many of them rotted on the trees, I think by reason of there being too much water in the ground, as several other kinds were affected in the same way. "Crawford's Early" are as handsome as any that I have cultivated, but I think they are rather tender, and very sensitive to our winters. The large white and yellow rareripe, "Coolidge's Favorite," the old large red rareripe, have each proved hardy. Although I adopted the heading in, from the first, and continued it for several years, yet some kinds, such as the Early York, Gross Mignonne, Royal George, &c., would soar aloft, the lower limbs dying out. I have thought my trees were more hardy than some other orchards, by reason of the stocks being selected from seed of the native, unbudded fruit. I have kept out all dead wood, trimming in the autumn, removing sometimes large limbs that interfered with my apple trees; where they were severed from the trunk would become hard and dry before spring, therefore send out no gum.

In the first starting of my peach orchard, the grubs took to them so that I began to think they would destroy them entirely. I took air-slaked lime, removed the earth from near the trunk of the trees, and applied about two quarts to each tree, pressing it up close to the tree; this was done in June, for two or three years, and it proved effectual. Now it is evident we can have a crop of peaches when the mercury falls twenty below zero; but the reason, to my mind, is that the wood has well ripened the previous autumn, the blossom buds never swelling or starting until spring. It often happens that we have a warm spell of weather in November, sometimes later, that starts the blossom buds, after which, extreme cold, say a few degrees below zero, will be death to them. The soil on which my orchard stands is mostly warm, dry soil, with a hard, gravelly sub-soil underlying it, on which the apple flourishes finely, and its nature is to stand a drought extremely well. A. G. BRADSTREET.

Locust Glen, Danvers, May 20, 1858.

REMARKS.—Mr. BRADSTREET, will please accept our thanks for this excellent article upon the culture of the peach. We have no doubt it will be the indirect means of supplying many families with a supply of that delicious and wholesome fruit.

COAL.—Ere we wrap up this carboniferous integument of the landscape, let us mark to how small a coal-field England has for so many years, owed its flourishing trade. Its area, as I have already had occasion to remark, scarcely equals that of one of our largest Scottish lakes, and yet how many thousand steam engines has it set in

motion—how many railway trains has it propelled across the country—how many thousand wagon loads of salt has it elaborated from the brine—how many more millions tons of iron has it furnished, raised to the surface, smelted and hammered! It has made Birmingham a great city, the first iron depot of Europe, and filled the country with crowded towns and busy villages. And if one small field has done so much, what may we not expect from those vast basins laid down by Lyell in the geographical map of the United States?—*Hugh Miller.*

For the New England Farmer.

TABLE OF MEASURES OF LAND.

Knowing the difficulty often experienced by farmers and others, in laying off small parcels of land to be used in making an experiment in growth of crops, or application of manures,—I have prepared a small table of measures, in the simplest form, which may be useful to the readers of the *Farmer*.

It will be seen by reference to the plan that a practice sometimes followed by farmers is very erroneous; if the side of a square containing one acre measures 208.71 ft., one-half that length will not make a square containing one-half an acre, but only one-fourth an acre, and one-third the length of line will enclose a square of one-ninth an acre, and one-fourth the line, squared, will contain one-sixteenth an acre, and so on, the square of the fraction of the line taken will give the part of an acre enclosed.

ONE ACRE CONTAINS

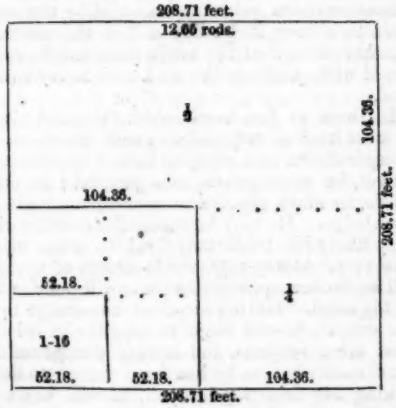
160 square rods; 4840 square yards; 43,560 square feet.

ONE ROD CONTAINS

30.25 square yards; 272.25 square feet.
One square yard contains nine square feet.

THE SIDE OF A SQUARE TO CONTAIN

One acre	208.71 feet	12 65 rods	64 paces.
One-half acre	147.58 "	8 94 "	45 "
One-third acre	120.50 "	7.30 "	37 "
One-fourth acre	104.36 "	6.32 "	32 "
One-eighth acre	73 79 "	4.47 "	22½ "



The square above is supposed to contain one acre.

J. HERBERT SHEDD.

Boston, May, 1858.

CLOSE BREEDING.

There has long been a controversy among men on the subject of close breeding, some contending that it is very injurious, others that it is not seriously objectionable. By close breeding is meant, breeding by animals of near affinity of blood. It is contended by the objectors to close breeding, that fowls, sheep, hogs, and cattle that are bred for a long series of years in the same flocks, without the addition of any alien blood from other flocks or breeds, surely degenerate and become less useful. And this is given to account for the unserviceable fowls, the gaunt hogs, the weakly sheep and the scrawny cattle that are so frequently found on old farms, among old-style farmers. Those who see no objections to close breeding cite many examples of it to sustain their views, such as Flying Childers, a horse of unrivalled beauty and speed, known to have been closely bred; the Darby Game fowl, bred at Knowsley Park for several hundred years without change from the blood of the original stock; the pair of wild geese brought by Col. Jaques, of Somerville, Mass., from Canada, in 1818, whose stock at this time, bred in a direct line from the original pair without the addition of any strain of new blood, is not the least degenerated. But notwithstanding these isolated cases of the seeming safety of close breeding, we must give our testimony strongly against it. We cannot but feel that close breeding among human creatures or animals is generally attended with bad effects. It is true, cousins may marry with safety to their offspring, but it is very common that bad results are known to follow. We have seen nor read of no great man nor woman the offspring of cousins. And we believe that the children of cousins are generally inferior to their parents. The same physiological laws are in action in both human and animal creatures. It is a law, we believe, of human physiology that similarity of temperament is unfavorable to the offspring, whilst dissimilarity of temperament is favorable. Now, it is a general rule that similarity of temperament obtains in families. This will be especially the case if families should breed in-and-in for several generations. Even in this view of the subject it is best often to seek favorable crosses in breeding animals.

It is well known that the barn-yard fowls on many farms are very unserviceable. It is known, too, that this is not for the want of good fare, shelter, &c. It is known, also, that in many instances these fowls have been bred-in for many years without a single fowl from any other flock being added. The inference is very plausible that close breeding has affected them unfavorably.

We know a woman whose hens have for several years been very serviceable. She is the wife of an intelligent and successful farmer, and she laughs at the mania for foreign fowls. She thinks she can show as large eggs and as many from a hen, as much profit with as little expenditure as anybody. Her plan has been for many years to breed from her best hens, to set only the largest eggs. If she sees a fowl in any neighbor's yard that is very fine, she buys it or swaps for it; if she sees a very large egg elsewhere, she secures it if possible; thus constantly bringing new strains of promising blood. Her fowls

are large, healthy, and thrifty. Being well cared for every way, they are very productive and serviceable.

We believe this is the best plan to secure useful fowls. The same general principles will apply to raising all kinds of stock.—*Valley Farmer.*

INCREASING THE QUANTITY OF CREAM.

A gentleman in Brussels, Mr. BAKAERT, sometime since assured the public that he had at last been successful in his efforts to discover a process for increasing the quantity of cream from milk. The process by which this is accomplished is as follows:—

To every two quarts of milk, add a tablespoonful of liquid made by dissolving in a quart of water one ounce of carbonate of soda, one tea-spoonful of curcuma, or tumeric, and three drops of marigold water is added. The action of the soda is, according to Mr. Bakaert, to cause a greater quantity of cream to be separated from the milk than would otherwise be; while the other ingredients render the quality and color of the butter superior to that of butter produced in the ordinary way.

We are not satisfied that this boasted discovery will be of any great utility, after all. It is somewhat difficult to conceive how the carbonate of soda can produce the action or result which, in this case, is attributed to it. As to "coloring" and "flavoring" butter, when the latter is properly made, it is to be regarded as of a piece with "gilding refined gold," or to add perfume to the violet. The milk of cows, judiciously kept, if well managed, will always produce butter of a good color and flavor, and the attempts of some to render their butter more saleable in the principal markets, by coloring it with pigments of various kinds, is, at best questionable as to its utility, and generally to be deprecated as a decided injury to the article when it is to be kept any time before being used.

In a paper now before us, we notice an article in which the yellow Altringham carrot is recommended as an excellent article for coloring butter! The yolks of eggs, and otto, are also used in some localities, for this purpose, as are various other vegetables and *drugs*. Every thing added to good butter,—after a little salt,—hurts its keeping qualities, changes that sweet, delicious taste that good butter always has, causes it sooner to become rancid, and depreciates its true value.

AS TO GOING TO PARTIES.—"Extensive and promiscuous intercourse with mankind has few advantages for the man of thought. Access is not thus to be obtained to what is most valuable in others. Better for the studious, thinking man to be much alone, cultivating acquaintance with the inside of good books and himself, than with the outsides of other people."

A NEW VINE PROTECTOR.

We have seen a new contrivance to protect squash, melon and other vines from the ravages of bugs, which we think cannot fail to be efficient. The largest in size and form resembles a half bushel measure; the sizes then decrease so as to allow three others to be packed into the first, forming a nest.

They are made of scaleboard, about an eighth of an inch thick, got out by machinery from chestnut timber; are about eight or ten inches high, and fastened with copper nails. The top being covered with gauze, a hoop is pressed down over it and the thing is complete. It is light, cheap, durable, and will prove just the article needed. They are made by Mr. J. C. GOVE, of Leominster, and are for sale by Nourse & Co., 13 Commercial St., Boston.

For the New England Farmer.

NEW ENGLAND FARMING.

It is evident that the cultivator of a naturally unproductive soil needs more agricultural knowledge than one who cultivates a soil naturally rich in the elements of productiveness; for while the latter has to do only the commonest operations, such as call for a moderate outlay of physical force, the former has to do many things that could not be done by the mere exercise of brute strength, or could be done only at an unwarrantable expenditure of time and money. The latter has to do scarcely more than plow, sow and reap, while these constitute but a small part of the necessary labor of the former.

The latter may plant any seed on any portion of his farm and he will get good crops, while the former must know what parts of his farm are best adapted to the growth of particular crops and what elements he must supply to make certain parts yield desired crops. He must know, too, whether his farm contains within its limits the elements requisite for the restoration of the balance between its different parts; whether the swamp contains substances wanted by the sandy plain to render it fertile; and on the contrary, whether the soil of the sandy plain can be transferred with profit to the rank and heavy swamp land.

In short, as has been said a thousand times, he must have an acquaintance with the chemistry of agriculture, and after he has an acquaintance with it, he must put it into practice; in other words, he must proceed to experiment upon his knowledge. He may be successful or otherwise. Very likely his trials may lead to some useful discovery. At any rate, the fountains of thought will be broken up, and new ideas will pour in upon his mind. Having acquired knowledge upon one subject, he will begin to long for knowledge upon other subjects, and having disciplined his mind somewhat, as he has been forced to do in making his first acquirement, he will begin to feel the value of mental discipline, and to possess more of it will be his aim, until at length he will be the owner of a store-house of information, and the master of a well cultivated in-

tellect. Such would seem to be the legitimate course of things with the tiller of an unfertile soil.

The Illinois farmer need not, and therefore will not, trouble his brain about the chemical properties of the soil or those of manures, nor about the proper method of bringing the two together so that the heaviest crop may be obtained. He can get heavier crops from his luxuriant prairie land, without the knowledge of these things, than we, in New England, with the aid of the whole circle of sciences, from our stubborn soil. So long as this is the case, New England will furnish the most intellectual farmers. Here will be the birth-place of the best ideas upon the subject of agriculture. J. B. R.

May 19, 1858.

REMARKS.—Excellent, and ought to be well considered by every reader.

For the New England Farmer.

STICK TO YOUR BUSINESS.

"Gentlemen, we are about to separate—you to enter the arena of a hard profession; a large part of you I may never see again, and you will pardon me for the freedom of speech I have used in giving you my parting advice. Allow me to sum up the whole matter in a few short words which have passed into a maxim. Short, it is true, but of vast import—*Stick to your business.* Let come what will, be true to your profession and stick to it—let no consideration whatever divert you from it—give to it all the energy of your nature." These were the parting words of Prof. SEWELL, now dead, of Washington, D. C., to a graduating class of medical students, in the spring of 1842. He went on further to say, that if any of the class present had any doubts in regard to their future success in business, if they would follow the maxim to the best of their ability for ten years and did not succeed equal to their expectations, if they would come to him, or acquaint him with the fact, he would set them up in business with a competent income. About one-half of that class the writer of this has kept the run of, and they have no occasion to avail themselves of the doctor's offer, even if he were living. Thus it is in every department of life. I have yet to learn that one occupation of life is more honorable than another; it is the *man* who honors the business, and not the *business* the man. At the present day, there is great need of the application of our text—*Stick to your business*, and if in connection with this, John Randolph's motto be put in force—*Pay as you go*, success is morally certain—failure would be impossible.

It is said a *rolling stone gathers no moss*, and if the setting hen does not grow fat, she does not wear herself out in fruitless changes. So, young man, farmer it may be, *Stick to the farm*, work on, do not be allured from it by the fine stories which come to every one's ears, about the West, California, and particularly of city life. Pay no attention to what that *nice* young cousin of yours has been pouring into your ears. He has only returned to the old farm to rusticate a few weeks, so he says. If he would only tell you the *whole* truth, you can well afford to let him "spread himself" during that time; but I am fearful he will not initiate you into the *whole* of his city life.

There is probably no other business where the same amount of capital is invested and tact required, so free from anxiety and care as that of farming, and by general consent, none that pays better in the long run; there may be exceptions, of course. No matter what one's business may be, if he *sticks* to it, success is almost certain, but if there is a rule without an exception this is one. It is related that a certain person undertook to insult Billy Gray by telling him he remembered when he was only a drummer. "Ah! yes," said Billy, but didn't I *drum well?*" Billy stuck to it, and succeeded. So will you, farmer, mechanic, boot-black, merchant, factory girl, *et omnia*, &c., only stick—stick to it—that's all. NORFOLK.

King Oak Hill, 1858.

EXTRACTS AND REPLIES.

RULE IN PRUNING TREES.

This is my rule in pruning trees:—"Every branch that beareth not fruit is cut off, and every branch that beareth is purged that it may bring forth more fruit."

After the fruit is set is the time to prune and purge, that the risk which is incurred by pruning earlier or later than this season—the risk of cutting off fruitful and leaving unfruitful branches,—may be avoided.

Nature has given every tree the most advantageous form, and man can gain nothing by altering that form; his business is to remove the unfruitful, and so feed and purge the fruitful branches of the bearing tree, that it may be a profitable bearer of food and enjoyment to him and his. C. C.

Winchester, June, 1858.

REMARKS.—Very well, friend "C.," we are glad of your opinion on this important subject. But branches on which no fruit is set this year, would be quite likely to bear abundantly next year, if they were permitted to remain.

PEAR TREE BLIGHT.

Will you inform me of the cause of the blight which is upon my pear trees, and also the remedy? I have six young trees which are more or less affected, and I am fearful I shall lose them; they all appear to be in a healthy condition otherwise. I send you two of the leaves, that you may see how it works.

I send you, also, a leaf from an oleander, which has something on the back of it which is sapping the life from the plant; if you can tell what they are, and the cause and remedy, you will oblige my wife, who is a constant reader of your valuable paper. J. F. RAYMOND.

Hopkinton, May, 1858.

REMARKS.—There is considerable of the blight in pear trees: the subject of cure and remedy has often been discussed with little or no benefit to the pear grower. We know of no remedy.

The only safe remedy for the oleander is to brush off the insects carefully into a saucer, and

burn them; this may be done with a feather or soft brush. This can well be afforded with parlor flowers.

—

BUTTER STOCK.

I am pleased to learn that William S. Lincoln, Esq., of Worcester, has a cow that has yielded eighteen pounds of butter a week, this spring. I am not informed as to her specific name, if she has any—but if she continue to do as well as this through the summer, she will be entitled to stand alongside the famous "butter stock" from Framingham. We have in Essex several cows that yield sixteen pounds of butter a week—but none that come quite up to eighteen—since the famed Oakes cow, which yielded more than nineteen, and nearly five hundred pounds in the course of the season. I am glad this cow has fallen into so good hands. Nobody understands dairy management better than Mr. L., or can tell his cow's story with more effect. CREAM POT.

May 31, 1858.

—

SHEEP AND OATS.

If "S. D. C.," of Sunderland, will take the trouble to read the communication entitled, "Feeding Oats to Breeding Sheep," from the beginning, he will find that the question was not whether breeding sheep should be "fat as a hog," but whether oats were injurious to breeding sheep, yea or nay. One writer whom I quoted stated that he fed three sheep two quarts of oats per day, and lost his lambs, as he thought, in consequence. Judging from his statement his sheep must have been fat, but perhaps not as "fat as a hog." What I meant to suggest was, that perhaps his sheep lost their lambs because of their condition, and not because of the oats. But how or where he gets the idea that I preferred poor starved scalawag sheep to raise lambs from, is more than I can imagine.

N. Thetford, Vt., 1858. SOLON H. BERRY.

—

RHUBARB PLANT.

Will you or some one of the numerous readers of the *Farmer*, please give me information as to which of the various kinds of rhubarb is best to cultivate solely for the root, as a medicine? Also, information as to the method of raising cranberries from the seed, time and mode of planting, and oblige A SUBSCRIBER.

Vermont, June, 1858.

—

USE OF COAL TAR.

What will coal tar in a liquid state do towards keeping vines free from insects? It will preserve wood from injury by worms and bugs. If it is used, it should be quite weak, say a pint of tar to a gallon of water; if applied to the trunk of peach and apple trees, it will keep off borers. by wetting a brown paper and putting it around the trunk just below and above the ground, or wet straw in it, and secure it to the tree with twine, it will be equally good. S. A. S.

—

TRANSPLANTING STRAWBERRIES.

Will you, or some one of your correspondents, please to inform me which is the best time to separate and transplant strawberry vines? I have a fine bed which I wish to enlarge; therefore, the above information will be gratefully received by A YOUNG SUBSCRIBER.

REMARKS.—The early spring is probably the natural and proper time to transplant strawberry plants. We do not think August or September so good as the spring.

—

AIR-SLAKED LIME FOR PLANTS.

I wish to inquire how I can best apply air-slaked lime to my crops of corn and potatoes. The land is dry and sandy. Shall I put it around the plants at the second hoeing, or shall I sow it broadcast and hoe it in? C. W.

Indian Orchard, Mass., June 2, 1858.

REMARKS.—Apply it to the hill at the first or second hoeing, occasionally omitting a row in order to see what the effect is.

—

WHAT I CALL A GOOD COW.

After using what milk we need for coffee and tea, for a family of four persons, we make about *nine* pounds of butter a week from my cow. I call her a good one.

Reading, Vt., 1858.

EATING AND SLEEPING.

Hall's Journal of Health says: "For persons who eat three times a day, it is amply sufficient to make the last meal of cold bread-and-butter and a cup of warm drink. No one can starve on it, while a perseverance in the habit soon begets a vigorous appetite for breakfast so promising of a day of comfort."

Yes, yes; and by *omitting* the third meal, the individual, besides securing a night of sound sleep, will not find on awaking in the morning a bad taste in his mouth so indicative of general foulness.

If one would always have a sweet mouth and a clean tongue, he can secure them both by simply ceasing to overtax his stomach. This frequent eating is an idle, mischievous habit, ruinous of both health and comfort; and it prevents the individual from receiving the great amount of enjoyment which it was intended he should receive from eating, and which is necessary to perfect nutrition.

Nothing should be eaten between the regular meals, whether these meals are taken either two or three times a day; nor should one eat so that the quantity ingested will induce heaviness or uncomfortable feelings.

The cook tastes the food she prepares; and by this frequent tasting she destroys both the relish for her meals, and her health. There are many housekeepers who have the same pernicious habit.

We know farmers who, at the close of a long summer day, during which they have eaten heartily five times, and worked hard from four o'clock in the morning to nine at night, eat freely just before going to bed.

The stomach, already enfeebled by constant working under disadvantageous circumstances, has now imposed on it an impracticable task, and the men lie down to sleep! Next morning they

are nerveless—have scarcely slept all night—feel more wearied than they did when they lay down—and, on the whole, think the farmer lives a dog's life. So he does, so far as he sinks to mere animalism—living to eat—taxing his digestive apparatus at the expense of health, life, and life's enjoyments. So on from day to day, till nature makes a desperate effort to rid the body of the superfluous food introduced into it, burning it up by fever, or expelling it by some different remedial effort.

Farmers, being so much in the open air, with abundant exercise, *should* be the healthiest people; but, like others who are cursed with "*abundance* of bread," they are rheumatic, bilious, dyspeptic. This is a shame and a sin. Farmers! it is sin. Your liver complaints, chill fevers, etc., are as unnecessary as is the plague. Health and sweet sleep will come to you when you need, unless by bad habits you drive them away. "Go, and sin no more."—*Life Illustrated.*

For the New England Farmer.

CATTLE DISEASE.

Mr. Editor:—Can you or some of your correspondents give us information about a disease among our young cattle? About the first of September last, a party walking over a pasture belonging to one of my neighbors found a fine calf dead, which had probably been so three or four days. It may be well to state here that the pasture is on a high hill, one of the best in the vicinity, and has been used as a pasture for thirty years. Some days after another calf was found dead, and a few days after two more died. The owners then removed those remaining from the pasture and bled them in the neck. Was this a judicious course?

The next day another died and the day after another. These last had probably contracted the disease before their removal from the pasture. I saw the last one while sick (for it was well at night and died before noon the next day.) It staggered about, lying down and rising often. Its eyes rolled around. The body was swelled slightly and a white froth came from its mouth. I should think its head and stomach was the seat of the disease. A week after, a yearling was found dead in the same pasture. The remaining cattle, consisting of yearlings and two years old, were driven from the pasture and bled, (with the exception of some half-dozen owned by a man living at a distance,) in the same manner as the calves, viz., in the neck. The amount of blood taken varied from one to two quarts. The number bled was eighteen. Those remaining lived and were in good condition when taken from the pasture. It was supposed that it would be safe to turn cattle of the same age into the pasture this spring, but it proved otherwise for about a week after the owner had turned his cattle to pasture a fine yearling, one of the calves which had escaped last year, died. In a pasture on the same hill, a short distance from the one noticed above, a calf died last year. It was skinned by the owner and buried. I ought to have said before, that in the first named pasture the cattle which died were neither opened nor buried, though the two calves which died near the house were buried. This spring, a few days after the young cattle were turned into the last named pasture, a yearling died. Being much interested, three of us examined this animal. It could not have been dead more than fifteen or twenty hours. It lay in a clump of spruce bushes, where it had apparently laid down a short distance from the others, and after a short struggle died. Its body was swelled, but the neck was very much swelled. Upon opening the skin the neck was very black, the neck veins much swelled. The body looked as natural as common. The peck or second stomach was swelled very hard, and the inside skin as rotton as wet brown paper, and of a chocolate color. The rest of the body was a natural color. The head, neck and stomach appear to be the seat of the disease. Would poison produce the above result? They die so suddenly there seems to be no chance for the application of remedies. Would it be best to remove cattle of that age from the pasture? Since writing the above, another yearling died, the appearances indicating the same disease. Will Dr. Dadd or some other veterinary physician give his opinion? B.

Campton, 1858.

Remarks.—We can throw no light on this unfortunate visitation of disease. Dr. Dadd will impart any information he may possess, but would undoubtedly prefer to do it through his own excellent *Journal*. We shall be glad to have him reply through our columns, but will copy with pleasure from his own.

For the New England Farmer.

THE HORSE POWER MOWER.

I want to hear the click of this implement. The abundant grass waving over the plains invites its use. Imperfect as have been most of those that have been brought forward, either through defect of principle or material used in their constructions, still they are a decided improvement on the ordinary scythe operation. I know a single machine, of Manny's pattern, with which more than three hundred acres of grass have been cut within the last three years, averaging, at least, one and a half tons to the acre, on time not exceeding fifty minutes to the acre. I have good reason to believe that Allen's pattern has been used to better advantage than this. Either of them will be a saving of one-half the expense of cutting by the scythe. Will farmers neglect such a boon, when they can grasp it at their pleasure? Essex.

June 10, 1858.

To Tell the Number of Days in the Month by Counting the Knuckles.—By counting the knuckles on the hand, with the spaces between them, all the months with thirty-one days will fall on the knuckles; and those with thirty days, or less will come on the spaces. January, first knuckle; February, first space; March, second knuckle; April, second space; May, third knuckle; June, third space; July, fourth knuckle; August, first knuckle; September, first space; October, second knuckle; November, second space; December, third knuckle.

For the New England Farmer.

THE TRUE FOWL-MEADOW.

BY LEANDER WETHERELL.

There are two distinct species of grass, and by some botanists considered of different genera, called fowl-meadow by the farmers. One of them is called *Poa serotina* by Gray, and the other *Glyceria nervata*, the latter being indigenous to America and the former to Germany. The American grass is called *Poa nervata* by Willdenow, and most of the old botanists; also by Wood, in his "Class-Book of Botany." In Flint's "Grasses and Forage Plants" it is called *Poa nervata*, with the popular English names, Meadow Spear grass, Nerved Manna grass. The former, whose cut was given in the *Farmer* of last month, is called in the same work, *Poa serotina;* English names, Fowl-meadow—False red-top. It is also called a native of Germany. The object of preparing this article, is to show that the American *Poa nervata*, or *Glyceria nervata*, and not the German grass, *Poa serotina* or *Poa fertilis*, is the TRUE FOWL-MEADOW GRASS of our intervals and wet meadows or swamps.

The first description of the agricultural value of this grass I have been able to find, is contained in the "Essays upon Field-Husbandry in New England," by the Rev. Jared Eliot, of Connecticut, and was written in 1748 more than a century ago.

After claiming Indian corn as a native of this continent, Mr. Eliot adds, "There are two sorts of grass which are natives of the country, which I would recommend,—these are Herds-grass, (known in Pennsylvania by the name of Timothy-grass,) the other is Fowl-meadow, sometimes called Duck-grass, and sometimes *Swamp-wire Grass*. It is said that Herds-grass was first found in a swamp in Piscataqua (now Portsmouth,) by one Herd, who propagated the same; that Fowl-meadow-grass was brought into a poor piece of meadow in Dedham, by ducks and other wild water-fowl, and therefore called by such an odd name. It is supposed to be brought into the meadows at Hartford by the annual floods, and called there Swamp-wire grass. Of these two sorts of natural grass, the fowl-grass is much the best; it grows tall and thick, makes a more soft and pliable hay than Herds-grass, and consequently will be more fit for pressing, in order to ship off with our horses; besides, it is a good grass, not in abundance inferior to English grass. It yields a good burden, three loads to the acre. It must be sowed in low, moist land. Our drained land, (meaning swamps,) when it is of sufficient age, is land very agreeable to this sort of grass. As the seed is very fine, there is danger of sowing it too thick, as some have done, so as to come up thick like hair; this is a loss of seed and prejudicial to the grass.

When you bring to a swamp by flowing—have killed your bushes, and have ditched your land, and got it a little dry, you may sow the seed among the trees and the bushes; it will come up and establish itself, and prevent bad grasses from taking possession; then you may clear off the wood and brush at your leisure, and you will have good grass to mow as fast as the land is cleared. I have seen it grow knee high where the dead brush were very thick.

"This grass has another good quality, which renders it very valuable in a country where help is so much wanting; it will not spoil or suffer, although it stand beyond the common times for mowing. Clover will be lost, in a great measure, if it be not cut in the proper season. Spear-grass, commonly called English grass, if it stands too long, will be but little better than rye straw; if this outstand the time, it is best to let it stand till there comes up a second growth, and then it will do tolerably well; but this fowl-grass may be mowed any time from July to October.

"One of my sons told me, that at New Fairfield, he saw some stacks of it, that the people told him were cut in October; he pulled out some of the hay; it looked green, and had a good smell. This is a great convenience in time of sickness, or any other casualty whereby we may be hindered from mowing in season. This good property renders it a fit sort of grass for a new country, where we often have business crowded too hard upon us. Although Herds-grass be a valuable sort, yet the Fowl-meadow has quite eclipsed its glory."

In a subsequent essay Mr. Eliot, alluding to this grass, again remarks:

"In a former essay, I mentioned the strange and peculiar property of Fowl-meadow grass, that it will hold out to be in season for cutting from the beginning of July till some time in October; this I wondered at, but viewing some of it attentively, I think I have found the reason of it. When it is grown about three feet high it then falls down, but does not rot like other grass when lodged; in a little time after it is thus fallen down, at every joint it puts forth a new branch; now to maintain this young brood of suckers there must be a plentiful course of sap conveyed up through the main stem or straw; by this means the grass is kept green and fit for mowing all this long period.

"Whether this young growth from the joints be owing to the horizontal position of the straw, or whether it is a confirmation of that doctrine that the joints of plants are seed-vessels, I leave for Naturalists to determine.

"I find by experience that the best time to mow this grass, is when these new branches or suckers have obtained their full growth."

Thus have I copied in full what Mr. Eliot's Essays contain on this interesting topic to the farmer.

In the Patent Office Report of 1853, is a statement relative to this same species of grass, by Archibald Jones, Frankfort, State of Maine. Says Mr. Jones:—"Among our native grasses, I would call attention to the Fowl-meadow, which grew wild at Madawaska before it was settled by the Acadian French. It flourishes best on intervals, which in the spring are overflowed, receiving a rich deposite of sediment. It grows well also on land artificially flowed, provided the water be drawn off before warm weather, and the land well drained; if not, water-grasses will prevail over the Fowl-meadow. Under favorable circumstances such as indicated, it produces a more valuable crop than other grasses. Water lying upon it all winter will kill it; but an occasional overflow will not.

"Cutting it three or four years before the seed ripens, will cause it to disappear. For hay, it

THE TRUE FOWL-MEADOW:—Poa Nervata.

should not be cut before the seed is ripe. When sown, it tillers like rye and wheat, and in such cases is short lived. To meadows that have been cut two years in succession, before the seed is ripe, harrowing is beneficial, and by breaking the long and fibrous roots, the plants are multiplied. If the meadow be soft and miry it should be harrowed in the spring before the frost is out.

When feeding out the hay, it is a good practice to save the seed, chaff and all, and sow it on swales, moist upland, and well drained lowlands that are occasionally submerged. In all situations it produces seed in abundance, which will readily germinate among other grasses. Sown liberally over moist mowing-fields, it serves to keep out foul vegetation, otherwise prevalent.—Every farmer should cultivate a small patch for seed to be used as aforesaid.

Fowl-meadow makes excellent fodder for sheep and cows; but for horses it is too fine to distend the bowels when fed with grain. However large the produce, it is never coarse, the buts being eaten with the same relish as the finer parts; consequently there is little or no waste. If the burden be heavy, it does not fall flat by its own weight, but 'cripples,' the lower part near the ground with the top erect. If bent down by a summer freshet, new plants start from the joints and increase the yield without rot or decay.

"The stalks of this grass near the ground are small and wiry, and full of joints, containing little moisture, consequently are easily made into hay; and as the upper portions are small and limber, it is very little affected by rains while lying in cock in the field. Hence it is easily cured for the mow or the stack."

In a letter from Mr. Jones, he refers to Mr. Eliot as quoted above; he also adds that "it is a native grass of Maine and New Brunswick, growing abundantly on the intervals of the St. John's before the arrival of the Europeans. Wild lands cleared near the intervals of Madawaska require no seeding, the seed having been diffused by the moose, deer and cattle, feeding on the grass."

"For cattle and sheep it is preferred by those best acquainted with it, to Timothy or herds-grass. It never rusts, and may stand late without suffering injury,—is easily cured, a ton of it occupying a less space, it is said, than any other kind of hay.

Fowl-meadow is like red-top. On lands suitable for it, the crop is superior to red-top. Unless seeded once in two or three years it runs out. It is most grown in the country back of Portland, where seed enough may be obtained, and that, too, of the right kind. The best time to sow the seed is in August, when Nature sows the seed. It may, like other grass seeds, be sown at any time and with any other kinds. If the seed be scarce, a peck per acre, on suitable land, will soon spread over the whole. It will grow on any land not too wet, but best on lands subject to overflowing by spring freshets, if well drained, after the waters subside. A common fault is, that such lands are not well-drained, and consequently, the water-grasses crowd out the Fowl-meadow. Dry weather has but little effect upon Fowl-meadow."

The two descriptions of the True Fowl-meadow, native American, *Poa nervata*, the former by the Rev. Jared Eliot, of Killingworth, Ct., 110 years ago, and the latter by Archibald Jones, of Frankfort, Me., are the fullest and best in print, and are worthy of a place in the *Farmer*, where they may be read and referred to in time to come.

I shall next invite attention to George Sinclair's Hortus Gramineus Woburnensis, or an account of the results of experiments on the produce and nutritive qualities of the different grasses and other plants used for food for the more valuabe domestic animals, instituted by the Duke of Bedford, and prepared and published in 1824.

His experiments with the two grasses under consideration, the German grass, *Poa serotina* or *fertilis* and the American or *Poa nervata*, or *Glyceria nervata* of Gray, resulted as follows:

The German grass at the time of flowering produced per acre, weighed while green, 15,654 lbs.; soil sandy loam; loss by curing, 9000 lbs.; hay when dry, 6,653 lbs. When ripe, per acre, 14,973 lbs.; loss by curing, 6,738; weight when dry, 8,235 lbs.; weight of the nutritive matter, 733 lbs.; this exceeds, when ripe, that of the produce cut in flower, in the proportion of 5 to 3; and the produce of the latter-math to that at the time of flowering is as 3 to 6; and to the same, when the seed is ripe, 3 to 10.

In regard to early growth this grass ranks next to meadow fox-tail, cock's-foot or orchard-grass and tall oat. It is remarkable that the latter-math should be more nutritious than at the time of flowering; but this is owing to its property of sending forth a succession of flowering culms until frost comes; hence the names, *fertilis* and *serotina*. M. Host and Schrader speak of it as a grass suited in Germany to moist pastures and river-banks.

The American grass, the true Fowl-meadow, produced per acre while in the state of flowering, 21,780 lbs.; loss in drying, 13,612 lbs.; when dry, weighed 8,167 lbs.; when the seed was ripe, 21,780 lbs.; loss drying 13,068 lbs.; when dry, weighed 8,712 lbs.; nutritive matter 1,616 lbs.; the same whether cut while in flower or when the seed is ripe, the weight at the time of cutting both being the same; a circumstance, says Mr. Sinclair, that occurs with no other grass. The nutritive qualities of the latter-math exceed that of most other grasses. The root-leaves are produced on a shoot, standing fan-like in two rows, and are very succulent.

It is a remarkably hardy grass. In Feb., 1814, after a very severe winter, this species of *Poa* was perfectly green and succulent, while not a single other species, of nearly 300 about it, remained in a healthful state.

It is a native of North America, says Mr. Sinclair, the Scotchman, where the winters are longer and more severe and the summers warmer than in our climate. Experience enables me to state that this grass possesses valuable properties for agricultural purposes,—that it is a valuable pasture grass where the soil is not too dry.

	Ger. grass.	*Am. grass.*
Produce per acre, when flowering	15,654 lbs.	21 780 lbs.
Loss in drying	9,000 "	13,612 "
Dry hay, weight of	6,653 "	8,167 "
Produce per acre when ripe	14,973 "	21,780 "
Loss in drying	6,738 "	13,068 "
Nutrition, weight of	733 "	1,616 "

Thus does it appear that the true fowl-meadow is superior to the other called by some farmers

"bastard fowl-meadow," the German grass. They resemble each other in appearance, and by many botanists, are regarded as different species of the same genus, both being esteemed as valuable agricultural grasses; the American, however, being quite superior to the German, allowing a good Scotchman to be judge, and one, too, whose name ranks among the ablest agricultural writers Great Britain has ever produced. Loudon, in his Encyclopædia of Plants, calls *Poa Nervata* a native of North America; and *Poa fertilis* or *serotina*, a native of Germany.

John Sinclair, in his "Code of Agriculture," speaking of *Poa fertilis*, says it is a native of Germany, and possesses considerable merit, on account of its early and productive growth, deeming it as being better adapted for "hay than depasturing." *Poa nervata*, he says, is a native of North America, and is distinguished for its nutritive quality,—affecting moist soil, that is perfectly drained, and is a valuable addition in the composition of pastures, and is very hardy, the herbage being rich and succulent. David Low, in his "Practical Agriculture," speaks of *Poa fertilis* as a native of Germany, where it is esteemed as one of the superior pasture grasses, where it grows in wet soils and near rivers.

Lawson, in his "Agricultural Manual," speaks of the German grass, as *Poa fertilis* or *serotina*, fertile meadow grass, as a grass growing naturally in rich and moist soils; and of *Poa nervata*, nerved-seeded meadow grass, as a native of North America, stating that it was introduced in Britain in 1822, and is an early spring grass.

It will have been observed by the reader, that the English botanists, agricultural experimenters and writers, agree in calling *Poa nervata* the true Fowl-meadow grass; also, in calling it a native product of North America. Botanists of this country, from Willdenow down to Gray and Torrey, are all agreed, with the exception of Nuttall, who calls it *Briza Canadensis*.

In Dr. Willich's "Domestic Encyclopædia," published in Philadelphia, 1821, it is called Herds-grass, White-top, Fowl-meadow grass of East Jersey. Dr. Muhlenberg thinks it the same as *Agrostis stricta* of Willdenow. [In this he is in error, for it is the *Poa nervata* of Willdenow.] It is particularly adapted to wet, low lands. It mats and consolidates the surface, continues many years, excluding every other grass, and weeds. Many worthless swampy spots in the low parts of New Jersey have been made valuable grazing land by this grass, loaded wagons having passed over places which two or three years before sowing it would scarcely admit an animal to walk over without miring.

It makes excellent hay, cattle preferring it to either Timothy or Clover, it being better than the former, because finer and more succulent. The same bulk of herds-grass, [Fowl-meadow] will weigh one-third more than the same of Timothy. Four tons is a common crop for an acre. It yields no second crop, but affords excellent late and early pasturage. It was first brought to New Jersey from New England, by the late Wm. Foster; and introduced into Pennsylvania about 1810.

Dr. Willich concludes this article by adding, The Red-top and White-top are varieties of the above ["Herds-grass"] species of grass. The latter is the larger of the two. The red-top is particularly valuable, as it will grow and sod the first year on banks, where no other grass will thrive.

Thomas G. Fessenden, editor of the old *New England Farmer*, says, this grass is called Herds-grass and White-top at the South; and we believe it belongs to the same genus with the Fiorin, first brought into notice by Dr. Richardson, an English writer on Agriculture. Fiorin is *Agrostis stolonifera*, Creeping-bent; and Fowl-meadow is *Agrostis stricta*, Upright-bent.

In these remarks Mr. Fessenden most undoubtedly labored under a misapprehension, for he acknowledges before closing his article, his want of information or ability to answer the following questions proposed by Chas. W. Macomber, of Marshfield, and published in the *N. E. Farmer* more than thirty years ago, as follows:

1. What are the properties and uses of Fowl-meadow grass?
2. What soil is best adapted to it?
3. Will it answer, provided the soil is overflowed sometimes by salt water?
4. In what manner should the soil be prepared for the seed?
5. The quantity of seed per acre?

These inquiries have all been answered in this article, but the third, which is so, by stating it is not a salt marsh grass.

John Lowell, nearly thirty years ago, addressed a letter to the Trustees of the Massachusetts Society for the Promotion of Agriculture, and after recommending Herds-grass, white and red Clover and Red-top, says, we want no more. They are better for us than any of your outlandish grasses. But wait, gentlemen, I reply: There is the Yankee grass, unknown to *many* of you, but well known to the owner of the extensive meadows on Charles river,—the Fowl-meadow grass.

If this truly Yankee grass could be translated to all the meadow bottoms and the naturally moist, cold, half-peaty lands of New England, their produce would at least be doubled. It is difficult to procure the seed; but its value is beyond all calculation. Low meadows are furnished with Carices, unfit for forage. We have then one species of grass *not usually* known or cultivated, that is of inestimable value. It is no idle speculation, but sober fact, and unless a defender of ignorance will maintain that the Fowl-meadow grass can only flourish in the Dedham meadows, where first observed in Massachusetts, our agriculture has much to gain by the active, earnest, and assiduous propagation of this grass.

So much from Mr. Lowell, one of the best Agricultural writers New England has ever produced.

Dr. Bigelow, in his Plants of Boston and Vicinity, 3d edition, speaks of *Poa nervata*, Fowl-meadow or Meadow-spear grass, but says nothing of *Poa serotina*, the Fowl-meadow of Dr. Gray; both Professors of the same University.

Dr. Dewey, Professor in the University of Rochester, N. Y., in his Report on the Herbaceous Plants of Massachusetts, gives *Poa nervata*, Meadow-spear grass, Fowl-meadow grass; but says nothing of *Poa serotina*, it not being an American grass.

Having now set forth, authoritatively and quite

elaborately, as seen by the writers cited, the claims of the *Poa nervata*, represented in the fine cut, above, to the name of Fowl-meadow grass, it is hoped that both farmers and botanists, will hereafter distinguish between the "Yankee grass," and the Dutch grass, calling the former, as has been clearly illustrated is its rightful claim, and not the latter, THE TRUE FOWL-MEADOW, one of the best, if not the most valuable indigenous grass of the American continent, and being surpassed by few if any exotics.

ANTHRACITE ASHES.

It is, perhaps, not generally well known, that anthracite ashes—long considered worthless to vegetation, and an injury to the soil—are endued with properties rendering them somewhat valuable as manure. Those who reside in the vicinity of cities and other places where this coal is used as fuel, and where the ashes can be obtained in large quantities and at small cost, will find this article a matter of importance to their farming interests, if properly applied. All ashes act favorably on plants in general, and should never be thrown away.

Dr. DANA says, in his "Muck Manual," that from 4 to 8 pounds in every 100 parts are valuable to the farmer; and that the composition of anthracite ashes is very nearly that of soil deprived of its geine.

In referring to some carefully made analyses, Prof. NORTON, of Yale College, said, "they enable the chemist who has studied these subjects, to say at once, and with confidence, that this ash is of some value as a manure, and should by all means be so applied in cases where it can be obtained cheaply."

"In looking at the nature of these results," he adds, "we may draw the general conclusion, that in the ash of anthracite coal, we have in every 100 pounds, from 4 to 8 pounds of valuable *inorganic* material, of a nature suitable for adding to any soil requiring manures."

WE KNEW IT WOULD RAIN

We knew it would rain, for all the morn
A spirit, on slender robes of mist,
Was lowering its golden buckets down
Into the vapory amethyst,

Of marshes and swamps and dismal fens—
Scooping the dew that lay in the flowers,
Dipping the jewels out of the sea,
To sprinkle them over the land in showers!

We knew it would rain, for the poplars showed
The white of their leaves—the ember grain
Shrunk in the wind—and the lightning now
Is tangled in tremulous skeins of rain!

T. B. ALDRICH.

☞ Do you not expend time enough each year running after your neighbors' tools to pay for a complete outfit? Some men do, and exhaust the patience and respect of a good neighbor beside.

For the New England Farmer.

THE PEAR CULTURE.

I must be permitted to say that the frequent discussions in the *Farmer* upon the comparative value of the pear and quince as a stock for the pear scion, have afforded me amusement rather than instruction. They show that prejudice and ultraism still influence to a great extent those counsels which ought of all others to be eminently practical. If after so many years of trial, under so many difficult circumstances, the proper culture of the pear is still an open and unsettled question, what point in the theory of farming can be considered as fully established? I had supposed, until the discussions alluded to made their appearance, that there was very little difference of opinion among fruit-growers on the subject. I had supposed it to be conceded that both systems of culture have their advantages; and certainly I have seen nothing as yet in the arguments of your correspondents to satisfy me that such is not the fact.

In my view, the whole matter depends upon the circumstances of soil, climate and the desires of the cultivator. In the more northerly parts of New England, the quince cannot be trusted to survive the inclement winters, and some more hardy dwarfing stock, like the thorn-plum, is undoubtedly better. On a very dry and gravelly soil, the quince does not flourish, even in this latitude. On the other hand, the pear stock seldom produces good fruit upon a wet, clayey soil, however well the tree itself may flourish. As a general thing, a ferruginous soil is good for the pear, but not good for the quince stock. But most of our Massachusetts farms combine such a variety of soils, that some portions of them may be found adapted to both modes of culture.

If a man desires to leave a rich legacy to posterity, and has a soil adapted to the purpose, he can hardly attain that object more effectually than by setting out a large orchard of standard pear trees. It may take twenty, thirty or even fifty years for them to come to full maturity; but in less than the shortest of these periods they will pay for themselves. But if the farmer has neglected to cultivate a taste for fruit-growing, as most do, until gray hairs admonish him of a close proximity to the grave-yard, and still desires to enjoy some of the fruits he has neglected before he changes this sphere for another, his best chance certainly lies in the direction of the dwarf nursery.

Again, in many of our small gardens there are little spaces where dwarf trees may flourish, while standards would be cramped for room. On the other hand, with a larger space to be filled, the pear stock would form in a few years a beautifully ornamental tree.

I believe it is conceded that the quince stock produces almost invariably the largest and most highly flavored fruit. But then there are certain varieties, important in making up a good collection, which will not flourish on any other than the pear stock. Under all these circumstances, therefore, I think if the cultivator will only exercise an intelligent judgment, he will find both systems of pear culture good in their place, and will adopt either or both according to the particular purpose which he desires to accomplish.

Somerville. E. C. P.

For the New England Farmer.

LETTER FROM MR. FRENCH.

Waterford, Ireland, August, 1857.

MY DEAR BROWN:—To show that America is not the only country where one who is so disposed may find the means to "go ahead," I will tell you how rapidly I overcame space to reach the show of the Royal Agricultural Society of Ireland. I was at Lyons, in France, on the Sabbath of August 16th, and having before seen Paris and London to my satisfaction, I took the quickest conveyance to Waterford, in Ireland, where the exhibition was to be held on the Wednesday, Thursday and Friday following, about one thousand miles from Lyons. At forty minutes past seven, A. M., I took the train for Paris, three hundred and twenty-six miles, and arrived at that beautiful city at half past six in the afternoon of the same day.

As we left Lyons, we found the land more level than it was before we reached that city, and grapes are growing finely over large tracts of even surface, extending through fields apparently of fifty or more acres.

This was to me a new feature. All along the Rhine, and through the valley of the Rhone, the grape is usually grown upon the sunny declivity of steep hills, very often terraced, and supported by stone walls at great expense of labor. Here, however, the vineyards are wide spread over rich fields, like our fields of corn, and wine is the principal product of the land, though Indian corn, which is nowhere seen in England, Scotland or Ireland, is seen here flourishing in small patches. Oxen, along this route, are worked upon the plow and cart, in pairs, drawing usually by the head; the yoke, if such a thing may be called a yoke, being laid across their foreheads and bound to the horns with leather thongs.

One would suppose that cattle thus harnessed could perform but little labor. I watched them, carefully, both on the plow and on the cart, and really could not see but that they carried their load as easily and comfortably, as if yoked in New England fashion. They hold their heads fully as high as our cattle, and walked very steadily, and I noticed one yoke in particular, hauling a load of split stones on the highway, which I thought would make a heavy load for oxen of the same size in America.

Men, women and children all carry heavy burdens on their heads in all these countries, as heavy as our men can bear on their shoulders. On the whole, I am inclined to think that both men and beasts are stiff-necked enough to take along any burden by the head, which they can carry in any other way. In some districts through which we passed, oxen were seen yoked both ways in the same field, so that if it were found that one mode is really much better than the other, one would suppose it would be universally adopted. We remained in Paris till Tuesday at half-past one, and then took the train for London by way of Boulogne.

The distance from Paris to Boulogne is not far from one hundred and eighty miles. The first part of the route is through market-gardens finely cultivated and very productive. Soon, however, the scene changes, and the land becomes level and low, and we passed through a wide extent of country devoted to pasturage. Large herds of cattle were seen grazing in the meadows, many of which appeared as if kept green by artificial irrigation. Some flocks of sheep were observed watched by shepherds with their faithful dogs. Hemp is cultivated to a large extent, and grows very tall and heavy. I noticed some tracts in which men were at work among the hemp, which reached a foot or two above their heads. Wheat and oats were just at harvest time, and looked well, though cultivated in small tracts, and a few lots in tobacco seemed to indicate that the most useless of all weeds might thrive in this part of France. At Boulogne, we crossed the channel to Falkstone in England. We embarked at about eight in a small steamer and touched English soil at about ten, where we soon took the train in the darkness for London, where we arrived at about one at night, making the distance from Paris to London in less than twelve hours, about three hundred miles. On the whole, the French railways are as well conducted and as comfortable as any I have seen. Their second-class cars are cushioned and stuffed, and good enough for anybody. The English first class *carriages*, as they are always called in England, are very luxurious, but the second class are without cushions or stuffing, and a bare board for seat and back is all they afford. The price of the second class in England is somewhat higher than the first class in America, and of the first class about fifty per cent. higher than the second. It is respectable, though not very comfortable, for a gentleman, to take the second class. We remained in London till Wednesday afternoon, when we took the Great Western broad gauge railway for Waterford. We arrived at Milford Haven, on the extreme western coast of England at one in the night, having run two hundred and sixty miles in the time, some part of the way, at the rate of fifty miles an hour. At Milford Haven we took a steamer ninety miles for Waterford, where after a comfortable sleep, rocked in the cradle of the deep, I arrived at about noon on Thursday, having made the distance of one thousand miles in a little more than three days, besides passing a good part of a day in Paris,

nearly a whole one in London, and twice crossing the channels, reckoned the most disagreeable of all passages.

I received a hearty welcome from Col. Nichols, Secretary of the Agricultural Society, who at once presented me with admission tickets to all the exhibitions, as well as to the ball, to come off that evening. Of the exhibition I shall not have occasion to speak at much length, having already, in previous letters, given a pretty full description of the animals and implements at the exhibitions in Suffolk county and of the Royal Society at Salisbury. The exhibition at Waterford was very fine, in all its departments, but I was soon satisfied that at the previous exhibitions which I had attended, I had seen very nearly the same variety that was exhibited at Waterford. The Short Horn stock was of a very high order, but although not consisting of the same animals, differing very little from those I described at Salisbury. Everywhere through Great Britain and Ireland, the Short Horn is in general regarded as the best stock, though in particular districts, peculiar varieties are bred. The agricultural implements at Waterford were nearly the same as at Salisbury. Indeed, manufacturers from England were the principal exhibitors. At Waterford, I noticed some very fine Ayrshire cows, in milk, I think the very best milking stock I have seen at any exhibition. I happened, by a single inquiry, to elicit a very warm discussion between two breeders, as to the origin of the Ayrshire stock. One of them insisted that the Ayrshire is a distinct original breed, like the Alderneys and North Devons, while the other contended that it is a mixed breed, made up, as both admitted the Short Horn to be, of other breeds improved by careful crossing. I leave the question for the decision of those who are competent to "decide when doctors disagree." Some Galloways, of very good quality, were on exhibition. From what I saw of them there, and have seen elsewhere, I should describe them as a black, hornless, hardy breed, of good size, much inclined to lay on fat, and average milkers. They are much valued for beef. There was, also, a fair show of Kerry cows, a very small, thin looking race, with very long, slender horns, and good indications for milk. They look, in general, like some very small, old cow that we occasionally find in a farmer's yard, tolerated because she happened to be a good milker, but always shown with an apology for her presence in good society.

Then we had the West Highlanders, which I have seen on their native mountains in large numbers. They are a small, "scrubby" looking race, with large horns, and thick, rough coats, valuable for the fine quality of their meat, which is fattened for the gentry, who prize it above any other variety. These cattle are raised on the Highlands of Scotland, and driven over to England for the market. I do not hear that any attempt has been anywhere made to improve them by careful breeding.

The sheep were principally Leicesters and Cheviots, and appeared very excellent of their kinds.

There was a large show of swine, principally of two varieties; the Berkshire, a black and white race, such as we see in America, from the Western States, and the Cumberland, a very large, white breed, long and well proportioned, evidently designed to inhabit a land of plenty. My impression of them, however, is that they cannot come to maturity young enough to make them profitable for rearing in New England, where I think the general opinion is in favor of slaughtering swine at an age not much exceeding one year. As I entered the show-ground I noticed the American flag flying over a tent, and on approaching found the American Eagle Mower and Reaper (Heath's Patent) there on exhibition. It took the first prize both at Waterford and Salisbury as a Mower. It was not entered for premium as a Reaper. Mr. Haskins, who has charge of the working of it, has attracted much attention by his Yankee shrewdness and wit, at the exhibitions.

At the Salisbury exhibition, when the Prince Consort called to examine the Yankee machine, and the attendants were attempting to explain the operation of it, Mr. Haskins, to the horror and consternation of the awe-stricken bystanders, stepped in and took the explanation into his own hands. His Royal Highness had the good sense to prefer the conversation of a sensible American, who understood his subject, and at once entered into the details of the matter, and at the close thanked Mr. Haskins for his assistance. It requires a good deal of intercourse with Englishmen, for an American to realize the awful distance between a laborer or mechanic and a nobleman or lord. Any American feels himself the equal of any other man alive, but English society is divided into classes, based upon titles and estates, by barriers as impassible as the great gulf itself. However, most nations have their idols, and we will not too severely criticise the taste of a nation who worship the national debt and an aristocracy, as the sources of all prosperity; and with this one ill-natured remark, I will close this letter. Wishing you health and peace, I remain your friend,

HENRY F. FRENCH.

☞ It was the saying of Sir Robert Peel, "I never knew a man to escape failure, in either body or mind, who worked seven days in the week."

A WORD FOR THE BOYS.

"No, father, I don't want sandy ridge, nothing grows there but sorrel."

"That's good enough for you, boy. You'll only waste your time and raise nothing, if you had the best of the farm. You may as well take a hard piece to begin with as anything else. I don't know about this plan that you boys have of farming for yourselves, and having the profits; I rather think it won't amount to much, after all."

"I don't think it will either, if we have nothing but sand to plant our seed in. The other boys are going to have a few rods of the right kind of land, and will raise good crops. If I can't have anything but sandy ridge, I don't want any. Harry Grey is going to have one side of his father's vegetable garden. The hired man will spade it for him and show him how to plant his potatoes, and all that he raises will be his, to do just what he pleases with. This is the way the other boys are going to do. We have agreed to sell what we raise and put the money in the missionary box."

"A poor piece of speculation. But I'll see about it, boy. You go about your work now,—there's plenty to be done, and you won't have any time for boy's plans or plays—you keep steady about it, and if the crops come in well, perhaps you'll get something extra."

The boy went to his work, but with tears and a heavy heart. "It is always just so," he said to the hired man, "I never can do anything I want to. It is so strange my father won't let me have a decent piece of land, when he has more than he knows what to do with. I won't work here all my life time, I know. He thinks I'm going to be a farmer, but he'll find himself mistaken."

Why not, Mr. Farmer, let your son choose a piece of land for himself, when you have enough and to spare? It would yield you compound interest in a few years. If you wish to bind him to the farm, first tie his heart,—and no better way can be found than to consult his wishes, and to give him your sympathies when so simple a request is made as to try his skill at a little independent farming. What if he should fail in his enterprise, which is not very likely, if you give him the aid that you ought, the time is not wholly lost. It will excite him to more diligence, and he will perform twice the labor for you that he would had you refused him. It will not be enough to give him the use of the land, manifesting no further interest in the matter. But tell him how to dress it—what kind of grain or roots will be best adapted to the soil—how to sow or plant,—and then occasionally give him a word of encouragement, should he find his labors more than he anticipated. He may, boy-like, leave his work for play, but don't chide him harshly for it, remembering the old saying, that "all work and no play makes Jack a dull boy." Give him time for recreation, and work for you will become no drudgery.

By interesting yourself a little in the boy's plans, you will gain his confidence, and cheerful obedience, making home so pleasant that he will never distress you by roaming for forbidden pleasures, or by fastening himself to associates that would work his ruin. If you, then, value the boy's happiness or your own, do not coldly repulse him, when he comes to you with what may seem a childish request. For the time, it involves as important consequences to him, as any of your own plans which have grown out of matured experience. The disappointment to him would be as great as it would be to yourself to fail in some enterprise which had long occupied your thonghts. If you keep your boy's heart, he will more than requite you in future years, when the toils and cares of life have become a burden, and you feel that you must lean somewhere,—then he will support you—brightening the decline of life, steadying your faltering steps with the same patient care with which you have guided him through the capricious years of boyhood.—*Portland Transcript.*

EARLY CLOSING MOVEMENT.—All the agricultural houses in this city have agreed to close their stores at 4 o'clock on Saturday afternoons during the summer months. The *New England Farmer* office will also close at that hour on Saturdays through the summer.

BOYS' DEPARTMENT.

POP CORN.

I will tell you, dear young readers of Mr. Merry, something about pop corn, that I am sure will surprise you.

I know that you have often paraded a saucer or small dish of the said luxury, asking mother and sisters, "Take some, please," while your face was painfully glowing, almost parched like your corn. I will tell you of a place where it is made a business, or trade. A building is appropriated to it; and six or eight persons do the work. An immense wire box is suspended over a furnace, and when half a bushel of corn is popping at one time, you may think there is a beautiful uproar—the *maize*, which is another name for Indian corn, flies about like mad. Twenty bushels bursts or pops into 240 bushels—increasing twelve-fold. They pop, and sell, in good seasons, some 240 or 250 bushels weekly. Think of that, boys and girls. Five hundred of the balls, which you see and taste so often, fill a barrel. Twenty-seven barrels are prepared in a day. Sometimes they receive orders for sixty bushels by one house at a distance. The bin or box, in which it is first placed, holds sixty bushels. It is a fine sight, too, for every kernel is perfect as a flower. A great sieve passes out all which are under size or imperfect. These go to the chickens by the barrel.

Often three barrels of sugar are used weekly, for the coating of the balls. This is a regularly made candy, which is poured hot upon the popped corn. At this place, Merriam's, Franklin Street, Brooklyn, they use refined sugar, and the pink coloring is harmless. As I looked upon the corn, or maize, I remembered that—

The life of Sir John Barleycorn
Was long since sung by Burns—
To sing of Brother Jonathan Maize,
My muse with ardor turns.

His early life was watched with care,
And guarded every hour;
One ministered to every need,
From sprouting into flower.

Young Jonathan no trouble met,
But plump and strong he grew;
Silk tassel o'er his *ear* he set,
Exquisite 'twas to view.

But now drew near his trial time—
For soon as he matured,
And just had donned his *yellow* coat,
Of proud repose assured,

All roughly seized was Jonathan Maize,
To Merriam's he was borne;
It was no *merri*-ment for him,
For he must burst or burn.

A fiery ordeal would him try—
Ah! that would test the *chit*—
If beauty, goodness, strength is there,
The fire will make the *hit*.

A furnace is in glowing heat—
Bold Jonathan, hold your own;
Hark! 'tis not *presto*, but 'tis *pop*—
Twelve-fold his size has grown.

Hurrah! hurrah! for Jonathan Maize,
Expanded by the fire!
Pureness and beauty burst to sight;
We look, and we admire.

All honored now is Jonathan Maize—
Selina's kindly hand
Bedecks him in a rosy coat,
With skilful *sweetness* planned.

Then in a box that's clean and white,
He's carefully encased;
Upon my word, if you would bite,
You'd say 'twas bite well placed.

LAURA ELMER, in *Merry's Museum*.

LADIES' DEPARTMENT.

RHUBARB WINE.

To every gallon of water, add five pounds of rhubarb cut in thin slices; let it stand nine days, stirring it three times a day; cover the pan containing it with a coarse cloth; strain it; to every gallon of the liquor, add four pounds of loaf-sugar, the juice of two lemons, and the rind of one; dissolve one ounce of isinglass (to fine it) in a pint of the liquor over a slow fire, then add it, when cold, to the rest; when fermentation has ceased, bung it close, and bottle it in March. A few raisins improve it. The lemon rind should not remain in after fermentation has ceased.

Cut the rhubarb into rather thin slices; squeeze through a sieve to extract the juice; this being done, mix with it as much sugar as will suit the taste, and some water, after which it must simmer on the fire for an hour or two; then put as much yeast as will cause it to ferment; put it into a cask for three weeks; draw through a tap; bottle. It will be good at the time, if properly fermented, but, if allowed to stand a year, would be perfect.

Seven pounds of rhubarb to be bruised in a mortar; and, when bruised, put to it three quarts of water; let the water be boiled, and stand until cold; stir them every day for five days; then add three and a half pounds of coarse sugar; then put it into a bottle or cask, and in three months add a quarter of a pint of the best brandy, and in six months bottle it for use. Twenty pounds of rhubarb, twelve pounds of sugar and eight quarts of water will make three gallons.

To every five pounds of rhubarb talk, when sliced and bruised, put a gallon of cold spring water; let it stand three days in a tub, stirring it twice every day; and then press and strain it through a sieve, and to every gallon of the liquor put three pounds of loaf-sugar; put it in a barrel, and hang some isinglass within the barrel, and bung it up directly. In six months, it will be ready to bottle. Currant juice to color, if you like.

Take six pounds of rhubarb, and cut it into half-inch pieces, put it into a pot, add one gallon of cold water, and let it stand three weeks, stirring it every day; then strain out the rhubarb, put the liquor into the pot again, and add three pounds of sugar to every gallon of the liquor; let it stand three weeks longer; then strain it through a flannel bag, put it into a keg or stone bottles, and add a little isinglass to clear it. It will be ready for use in three or four months.

Take four and a half pounds of rhubarb, bruise it in a tub with a mallet till quite soft; add one gallon of cold water, and let it stand three or four days; stir it frequently; strain it off through a wort sieve, and press the juice out; then measure the liquor; to every gallon, put three and a half pounds of moist sugar; let it stand a day or two, that all the sugar may dissolve; put it into the cask; do not stop it up close for a week; leave the top cork out; when put into the cask, add two or three ounces of isinglass; stir it well together, and in two months rack it, and run it through a flannel bag; then put it into the cask again, with a little more isinglass, if required. To ten gallons of wine, add six pounds of chopped raisins; the isinglass should be dissolved, and whisked to a froth; add what quantity of brandy you think right.—*Godey's Lady's Book for June.*

HOW TO COOK RHUBARB OR PIE PLANT.—Get the Linnæus rhubarb. It is larger, more tender and better flavored than any other, requires less sugar by one-fourth, and has no skin to be taken off. Do not attempt to peel it, but cut in pieces as long as the thickness of the stalk, and put them with your sugar in an earthen dish without water; cover it to retain the flavor, and place it in an oven and cook till quite tender without stirring or breaking the pieces. If too much cooked it assumes a disgusting stringy appearance, and loses all fruity character. The rosy color of the stalks will give your dish an attractive appearance, and the dyspeptic will find in it a powerful aid to digestion.

THE MISTRESS OF A FAMILY.—The housemother! what a beautiful, comprehensive word it is! how suggestive of all that is wise and kindly, comfortable and good! Surely, whether the lot comes to her naturally, in the happy gradations of wifehood and motherhood, or as the maiden-mistress of an adopted family, or—as one could find many instances, in this our modern England—when the possession of a large fortune, received or earned, gives her, with all the cares and duties, many of the advantages of matronhood—every such woman must acknowledge that it is a solemn as well as a happy thing to be the mistress of a family.—*A Woman's Thoughts about Women.*